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Original Articles

LOCAL ANESTHESIA*

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The history of the development of local anesthesia forms one of the most interesting chapters in medicine. It dates back in ancient times to the efforts of the human race to find means for relieving pain during the dressing of wounds received in combat. To enter the long story of the gradual advances made since then would require much time upon a subject with which we are not essentially concerned. However, it may be well to state that the local anesthesia of today has been made possible through the invention of the first hypodermic syringe by F. Rynd (1) of Edinburgh in 1845 (erroneously attributed to Wood) and the first use of cocain, by Karl Koller, at the Ophthalmological Congress at Heidelberg in 1884. Later advances were made by Reclus, Schleich, Bier, Braun, Pauchet, Crile, Labat and others.

During the last ten years there has been a marked tendency toward increased interest in the application of local anesthesia in general surgery. This may be attributed to the comparatively recent discovery of certain synthetic preparations of low toxity, which have resulted from the efforts of the medical profession to obtain a safe and successful agent of anesthesia that produces the least post-operative complications and has the lowest mortality risk. These discoveries resulted from efforts to overcome disastrous experiences encountered from the extremely toxic effects of cocain and have been productive of the universally accepted preparation known as novocain, which is about six to ten times less toxic than cocain and is regarded as safe, efficient and inexpensive.

Recent medical literature contains many enthusiastic reports showing the adaptability of local anesthesia in the various fields of surgery. Since so much attention has been directed toward this subject, it seems appropriate to present a statistical study of all local anesthetics administered in Butterworth Hospital during the past five years and to briefly review the advances made in local anesthesia to its present day status.

The study of cases was conducted in a manner so as to secure information referring to the following points, namely:

1. The number and classes of operations performed.
2. The percentage relation of local to general anesthesia.
3. Classification of ages.
4. Numerical classification of minor cases.
5. A tabulated study of major cases.
6. A consideration of local and combined local and ether anesthesia, showing the absence of complications.

PLAN OF STUDY
STATISTICS

Chart I.—Number of Cases

Major Operations	112
Minor Operations	222
Tonsillectomies	508
Removal of Laryngeal Papilloma	1
Submucous Resections	66
Acute Mastoid	1
Eye Operations	47
Total	957

In the above chart the classes and number of operations are listed. Hereafter only the major and minor operations are considered in relation to information appearing upon subsequent tables.

Chart II.—Years

	Major	Minor	Total Local	Total General	Total Operations	% Relation
1919	16	7	23	2,115	2,138	.01
1920	22	40	62	2,088	2,150	.029
1921	21	74	95	2,674	2,769	.035
1922	33	69	102	2,773	2,875	.036
1923	20	32	52	2,709	2,761	.019
Total	112	222	334	12,359	12,693	.027

Here the number of major and minor cases, general anesthesias, total operations and percentage relation of local and general anesthesia for each year are studied. A diminution of the number of local anesthesias exists in 1923, when compared with that of the year previous. This is partly offset by the fact that the total number of operations performed was also reduced. Of all

*Read to the Kent County Medical Society, January 23, 1924, Grand Rapids, Mich.

anesthesias it is seen that local bears a relation of .027 to that of general.

Scannell's (2) service at St. Catherine's and Greenpoint Hospitals reports statistics which may be compared.

Local Percentage Relation

1919	.18
1920	.39
1921	.57

This increase is largely due to the greater volume of patients and also preference for regional anesthesia at these hospitals.

Chart III.—Ages

	Major	Minor	Total
6 weeks to 10 years	2	2	4 cases
10 to 20 years	10	17	27 cases
20 to 30 years	18	65	83 cases
30 to 40 years	22	35	57 cases
40 to 50 years	12	36	48 cases
50 to 60 years	16	20	36 cases
60 to 70 years	16	25	41 cases
70 to 80 years	14	17	31 cases
80 to 90 years	2	4	6 cases
90 to 100 years	0	1	1 case
Total	112	222	334 cases

Youngest Patient, 6 weeks. Diagnosis: Pyloric Hypertrophy Laparotomy. Died.
One case 2 months. Diagnosis: Strangulated Hernia. Recovery.
Oldest Patient, 92 years. Diagnosis: Axillary abscess. Recovery.

The ages for major cases show that the greatest numbers are between 30 and 40 years. Possibly this is due to preference of patients of this age for the local form of anesthesia, or to contra-indications for a general anesthetic. The greater number of anesthetics in minor operations are upon patients between 20 and 30 years. This is explained by the fact that many industrial injuries, for which a large percentage of local anesthesias in minor surgery are administered, occur in young employes. In this series the youngest recovery case upon which local anesthesia was used was two months. Farr, (3) in 1920, reported successful anesthesia for the repair of inguinal hernia in a child of eighteen months. Since then he has employed local in all types of operations upon children and considers it the anesthesia of choice. He states that the psychic element may be largely ignored and, as a rule, the restraint is far less than that required when general anesthesia is used. Children may be, and indeed often are, frightened at the new strange surroundings and very young ones must be restrained by mechanical means, especially during the early part of the procedure. Once the child learns that he will not suffer pain he usually quiets down and submits without objection. In Farr's experience with children the use of novocain has proven without toxic effects. Patients of advanced ages tolerate local anesthesia without effect and advantages gained are many, namely, avoidance of pulmonary, kidney, liver and cardiac complications, thereby reducing contra-indications for surgery.

Chart IV.—Minor Cases

Operations upon fingers and toes for amputations, etc.	135
Breast Tumors	16
Circumcisions	15
Hemorrhoidectomies	8
Perineal Operations	2
Removal of Tumor of Testicle	1
Incisions for infections various parts of body	36
Removal of foreign bodies	7
Varicocele	2
Total	222

These cases are simply enumerated for interest.

Chart V.—Major Cases.

Diagnosis or Operation	No.	Local	With Ether	N2O	Successful Yes	Successful No
Inguinal Hernia	25	23	2	..	23	2
Inguinal Hernia, Strangulated	3	2	..	1	2	1
Femoral Hernia, Strangulated	3	1	2	..	1	2
Ventral Hernia	1	1	..	..	1	..
Hydrocele	6	3	3	..	5	1
Orchidectomy and Cord	2	2	..	..	2	..
Thyroidectomy	6	5	1	..	5	1
Thyroid Ligations	14	11	3	..	11	3
Appendicial Abscess	4	4	..	..	4	..
Gastro-Enterostomy	1	....	1	..	....	1
Gall Bladder (1 rupture, 1 chronic, both died).	2	1	1	..	....	2
Exploratory Laparotomy	5	2	3	..	2	3
Omental Adhesions to Abdominal Wall	1	1	..	..	1	..
Ascites of Abdomen	2	2	..	..	2	..
Tubercular Peritonitis	1	....	1	..	....	1
Gunshot Wound of Abdomen	1	1	..	..	1	..
Carcinoma of Intestines	1	1	..	..	1	..
Lung Abscess	2	2	..	..	2	..
Empyema, with Rib Resection	9	9	..	..	9	..
Pelvic Abscess	1	1	..	..	1	..
Prostatectomy	4	1	3	..	1	3
Suprapubic Cystotomy for Urinary Obstruction	18	16	2	..	15	3
Total	112	89	22	1	89	23

This tabulation of major cases gives the nature of operations, number of local, combined anesthesias and successes obtained. This is self-explanatory, but when compared with other tables shows a minority of the volume of cases presented by Butterworth Hospital's records.

Chart VI.

	Major	% Relation
Local, unassociated with General Anesthetic	89	.797
Local Anesthetic, combined with less than 3 oz. of Ether	22	.195
Local Anesthetic, combined with Nitrous Oxide	1	.008
Total	112	
Local Anesthetics, used with Adrenalin	42	
Local Anesthetics, reported as successful in Anesthesia	23	
Number of Deaths in all major cases, due to pathology present (One patient had Chronic Nephritis prior to operation and developed Acute Nephritis, Uremia and Death subsequently.)	13	
Number of Complications reported, due to use of local anesthetic	None	

The most interesting feature is the percentage relation of local and combined cases, when compared with the table of Labat (4). In Butterworth Hospital the percentage of successful anesthesia is 79 plus, while that of Labat is 88. The larger number of cases and a technic beyond reproach ac-

counts for a very high rate of success, as presented by the latter.

According to Chart VI, no complications traceable to anesthesia were observed. Denk (5), of the Eiselberg Clinic of Vienna in 1919 and 1920, reported interesting statistics regarding pneumonia which developed in cases in which combined anesthesia of local and ether, in less than three ounce amounts were used. In 895 major cases with this method there were 14 cases of pneumonia, with four deaths. In a similar study of cases of local anesthesia alone, there was one case of bronchitis and 12 cases of pneumonia, with two deaths. This seems to argue that pneumonia is as liable to develop in cases of local as in cases of combined local and ether narcosis. However, some of these patients might have been operated when latent infection existed and developed after operation. If general anesthesia had been considered the operation might not have been performed. Dr. William J. Mayo (6) states that a large majority of pulmonary complications following surgical operations are embolic and appear quite as commonly after regional as after general anesthesia. He mentions that advantages are to be gained in the administration of local anesthesia in cases of intestinal obstruction, where regurgitated material may be aspirated into the lungs during general anesthesia.

A review of the literature published during the last five years reveals the use of regional anesthesia in almost every field of surgery. It appeals to one that within the near future local anesthesia has greater practical possibilities. In 1913 Finsterer (7) reported at the Drollinger Clinic in Budapest that frequency of operation without general narcosis was 95 per cent and predicted that in the near future indications for general anesthesia would have to be established prior to operation.

TECHNIC

The progress of local anesthesia in the various departments of surgery, since the introduction of novocain, has depended upon perfected methods of administration applied only after thorough experimentation and guided by an accurate knowledge of regional anatomy. This is exemplified in the following classification for technic, which covers almost every field of surgery:

1. Infiltration.
2. Field Blocking.
3. Regional.
    a. Conduction.
    b. Spinal.
    c. Splanchnic.
    d. Sacral.

The infiltration method consists of the injection of large quantities of anesthetizing solution into the tissues without regard to the anatomical relation of the nerve supply. Reclus and Schleich (8) in the early days of regional anesthesia used the infiltration method in the line of incision and found it easy and successful for good anesthesia where the tissues permitted the injection of large quantities of fluid. The entire study of Butterworth's cases brings out the fact that only those were selected for operaction to which the infiltration and field block techniques were adapted, namely hernias, thyroids, prostates, suprapubic cystotomies, empyemas, hydroceles and exploratory laparotomies, requiring very little visceral manipulation. In no instance did the patients' chart indicate that any other forms were employed.

Successful operations of the head, including trephine and brain tumor, have been accomplished by many operators, especially the French. Local and regional methods are especially adapted to cases where loss of consciousness would prove harmful to the patient. An excellent demonstration of this form of anesthesia was witnessed by the writer. Upon a recent visit to the Mayo Clinic, a case diagnosed as neoplasm of the upper cervical spinal cord was operated. The back, neck and occipital area of the head were injected with combined infiltration conduction methods. Incision was made without pain. Previous to operation the patient complained of pain, disturbances of sensation and muscular spasm in the right arm and leg. During operation the surgeon pressed upon a certain area and the patient cried out, "Oh, my right leg hurts when you do that." Upon further examination a small tumor was found attached to the cord, which he attempted to remove. Under general anesthesia identification would have been impossible. This emphasizes also the co-operation between patient and surgeon.

By field block of comparatively large areas of skin plastic surgery of the head, face and neck are successfully carried out by Pauchet (9), Labat and Braun. During the World War, thoracic surgery gained many of its rapid advances by field block and conduction methods where general narcosis would have been largely detrimental, if not fatal.

SPINAL ANESTHESIA

With spinal anesthesia Labat and Pauchet have operated upon a series of approximately 2,000 cases with only two deaths. Hugh Cabot (10) performed 180 thigh amputations, 90 under ether and 90 under spinal anesthesia, with the result that the mortality

under spinal anesthesia was 50 per cent below that of those done under ether. Spinal anesthesia, when successfully applied, gives excellent results, but due to the fact that there is a greater risk associated with the intra-spinal injections and on account of the headache which is sometimes encountered post-operatively, it has fallen into disfavor with some operators. It should be administered in no instance except by one well versed in its technic and possibilities. Other forms of spinal are extradural, paravertebral and caudal.

SPLANCHNIC ANESTHESIA

The splanchnic method of Kappis has been successfully used by Finsterer (11) since 1912 in 241 cases of gastric carcinoma, in which he was able to perform resections in 138 cases or 57.27 per cent in patients ranging in age up to 70 years. He had 24 deaths or 17.3 per cent mortality, a large number of which were due to extension into the oesophagus. Excluding those cases which would formerly have been considered inoperable, on account of local extension, the mortality is reduced in the 241 cases to 5 deaths or 8.3 per cent. Of 178 resections for ulcer, 17 patients were between 60 and 70 years old, and not one died. Finsterer uses combined conduction and infiltration of the abdominal wall together with splanchnic anesthesia, which he produces by introducing his needles through the back. He prefers general narcosis in all cases where infection is present. All of his cases were preceded with hypodermic injections of morphin and scopolamine, which is used by practically all advocates of novocain.

SACRAL ANESTHESIA

The sacral technic, of which pre-sacral and trans-sacral are modifications, has been used with limited success by Rubsamen (12) at the Women's Clinic in Dresden. In a series of 51 cases of major abdominal, pelvic and perineal operations, he reports complete anesthesia in 86 per cent of all cases. Where the operations required long periods, ether inhalation was necessary for successful anesthesia. He argues for sacral anesthesia in preference to spinal in the relation that there are no associated headaches and that the risk is less. Meeker and Frazer (13) of Rochester report enthusiastically upon 225 cases of trans-sacral nerve block anesthesia operated upon with improved technic and show that they obtained practically 100 per cent absolute anesthesia of the pelvic floor in such cases. The trans-sacral technic requires practice and patience and must be accompanied with a technical knowledge of the anatomy. Sacral anesthesia has also been employed by Scholl (14) in 150 urological examinations, including cystoscopy. 140 of the 150 cases gave successful anesthesia. In 7 cases failure was due to what he reports as individual resistance to the novocain and to errors in technic; two cases to anatomic deformities of the sacrum; and in one case to the extension of a malignant process into the sacral cord. Two patients of this series had to be given a general anesthetic.

Meeker and Bonar (15) have very recently reported upon 90 cases in Cook County Hospital where a modified trans-sacral method of anesthesia was employed to produce successful and painless deliveries in Obstetric cases. The technic was applied to normal and operative cases. They were able to secure a more complete relaxation of the pelvic floor than in any other form of anesthesia, and could perform painless operations for incomplete abortions, including packing of the uterus and insertion of the colpeurynter. Their greatest difficulty was to secure delayed absorption of the anesthetic solution used. No ill effects were noted. This is apparently the very latest achievement within the scope of regional anesthesia.

CONCLUSIONS

Without becoming overly enthusiastic upon the subject of local anesthesia, it seems fitting to therefore draw the following final conclusions:

1. Statistical study of local anesthesia cases shows that the number of complications and mortality risk are decidedly low.
2. With proper technic and due consideration of regional anatomy, major surgery under regional anesthesia is quite practical.
3. The tendency of enthusiastic advocates of local anesthesia is to develop each field with slow and practical progress.
4. Predictions are made that local anesthesia may largely over-ride general narcosis.
5. Future development depends upon successes obtained in present practical application.

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SARCOMA OF THE MEDIASTINUM

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Primary sarcoma of the mediastinum, though rather uncommon, is by no means a rare disease. Herbert (1), in an exhaustive study, reports the disease to have occurred in one in every 292 cases admitted to Victoria Park Hospital in the years 1908-1917, and Ross (2), reporting on statistics from the Brompton Hospital during the years 1900 to 1913, found sarcoma in one in every 350 admissions. Rendu (3) says, "When in a subject not predisposed by diesthetic antecedents a cough develops, likewise difficult breathing, although no change in the lung or the heart can be detected by ausculation, this is already a presumption that the mediastinum is involved."

The symptoms vary considerably according to different reports, but can be enumerated best perhaps by their prominence and time of occurence:

(a) Dyspnoea from pressure or irritation, or from paralysis of the phrenic, vagus or sympathetic nerves;

(b) Cough, often of a hacking character, usually with onlv a small amount of sputum which may be streaked with blood;

(c) Pain which varies greatly in severity and location and frequently increases progressively;

(d) Night sweats often without, or not in proportion to, elevation of temperature;

(e) General increasing weakness;

(f) Loss of weight which is usually slight early in the course of the disease and not in proportion to the asthma, although it may be one of the earliest and most prominent symptoms;

(g) Hoarseness and difficult swallowing;

(h) Venous dilatation usually rather late and occurring on the front of the chest, abdomen, neck, shoulders and arms, face, and occasionally in lumbar region;

(i) Oedema which follows venous dilatation;

(j) Cyanosis especially of the face;

(k) Contracted pupils may be an early finding although rarely reported;

(1) Mental changes and coma are late manifestations.

Most of the above group of symptoms are signs of compression of the intrathoracic viscera and Dieulafay states, "It is this ensemble of symptoms which constitutes the *mediastinal syndrome,* which more or less complete, will allow one to affirm the existence of a tumor of the mediastinum." However, the early symptoms may be very meagre or simulate those of other conditions of the heart, lungs or bronchi, and make a diagnosis exceedingly difficult.

The diagnosis is dependent on the occurrence of the clinical symptoms, the physical and laboratory findings, and the X-ray and fluoroscopic findings which are almost indispensable. Laryngoscopic examination should be made for early abductor paralysis and for compression. There is a period of indefinite duration where, on account of lack of distinct signs, exact diagnosis can be made only with great difficulty and even then, principally by exclusion. With the symptoms indicating a tumor of the mediastinum, the differential diagnosis must be made between malignant tumors, tuberculous adenopathies, Hodgkin's disease, syphiloma, aneurysm of the aorta, dermoid or hydrated cysts, retrosternal goiter and mediastinal pleurisy.

MALIGNANT TUMORS

The absolute differentiation between sarcoma, carcinoma or lymphosarcoma is very difficult during life, although carcinoma is more often secondary in the chest. After a latent period the rapid development of symptoms referable to the mediastinal syndrome is indicative of malignancy.

TUBERCULOUS ADENOPATHIES

These do not simulate the clinical picture of malignant neoplasms except tuberculosis of the tracheobronchial lymph nodes in children, and here the physical findings in the lungs, the temperature curve, the family history and predisposition, the skin reactions and X-ray of the chest, make the differentiation.

Hodgkin's Disease—Early manifestations are usually in the cervical glands, but in cases where the mediastinal glands are first affected the marked reduction by X-ray therapy is pathognomonic.

Syphiloma—The clinical picture may so sim-

ulate a malignancy that in the absence of a positive history, luetic reaction of the blood and spinal fluid, and a luetic stigmata, a differentiation cannot be made except by the ultimate evolution or the response to specific treatment.

Aneurysm of the Aorta—This may produce all the pressure symptoms of the solid tumor, but is more apt to cause bulging in the sternal region. The cardiovascular symptoms, especially the moderate hypertrophy of the heart, accentuated second sound, tracheal tugging, and difference between the radical pulses, are marked and usually absent in solid tumors.

Dermoid or Hydrated Cysts—On account of the predisposition to median line growth, these tumors of the base of the neck and of the chest are definitely in the mediastinum or in the immediate vicinity. The X-ray may be the only means of differentiation and may disclose shadows indicating bones or teeth within a distinct contour of a membranous wall, usually circular with a homogeneous opacity, while the malignant tumors are of various shapes with irregular margins and varying density.

Retrosternal Goiter—Most of the mediastinal syndrome may be present and accompanied by mild physical signs with the dullness very high up, while in neoplasms these are usually quite marked.

Mediastinal Pleurisy—A collection of fluid between the layers of the mediastinal pleura may give all the pressure symptoms of a neoplasm. With the physical signs and fluoroscopic findings of changes in fluid levels, with changed positions, and often if an acute febrile condition is present, the diagnosis is quite readily made.

The secondary involvement in sarcoma of the mediastinum is especially evident in the lungs, and particularly in the right lung. In a summary of statistics taken from a large number of cases of different authors, the average involvement was fifty-eight per cent in the right lung and twenty-five per cent in the left lung. The involvement in both lungs varies from four to twenty-five per cent. This variation may be partially accounted for by the fact that some authors considered the lungs involved only when the autopsy findings showed evidence of changes in the glands about the hilus and the lung roots, but not in the pulmonary tissue itself. Secondary metastases extending to the abdomen vary considerably, but are often found in the liver, less frequently in the suprarenals, spleen and kidneys, and in a small number of cases in the pancreas. The spread to the abdomen may be either along the lympathics or by metastasis along the great veins if their walls have been pierced. The brain is rarely involved, but subcutaneous tissue changes are frequently effected and in a small number of cases the cervical glands give almost a typical picture of Hodgkin's Disease.

PROGNOSIS

The prognosis is usually unfavorable because the diagnosis is seldom made until the disease has involved considerable tissue and the pressure symptoms are pronounced. In Herbert's series of cases the minimum duration of the disease was eleven weeks, the maximum sixty-six weeks, while in Ross' series the minimum was nine weeks and the maximum eighty-eight weeks, with an average in the two series of thirty and thirty-two weeks respectively.

TREATMENT

Various treatments have been tried with but little more than temporary success in a few cases. Arsenic and the iodides have been used quite generally but without results, except in osme instances where the rapidity of the growth has been slightly checked. Surgery, except tracheotomy in spasms of the glottis for temporary relief, has not proven to be of value. X-ray treatment has seemed to temporarily check the growth in some cases while in others it has apparently stimulated it and possibly intensified certain symptoms. Duncan reports four cases in which radium has markedly decreased the growth and promptly improved the symptoms.

REPORT OF CASES

L. J., age 29, Hebrew, married, male. Admitted August 1, 1922.

Previous history: Frequent headaches as a child, brought on by excitement. Catarrhal jaundice at 22. Uncomplicated Neisserian infection at 23. Measles at 25.

Habits: Smokes 20 cigarettes per day. No alcoholic liquors or drugs.

Present History: On December 2, 1921, taken with lobar pneumonia involving lower lobe of left lung. This was apparently uncomplicated and he returned to work January 15, 1922. On March 15 he had what was called a "nervous breakdown" and was confined to his bed for a week. In April an X-ray examination was made and shadows over lower left chest were found. Following this, ten ounces of straw-colored fluid were aspirated from chest and patient returned to work immediately.

On June 1, 1922, he developed a pain in the left side of the chest and temperature of 103°. After thorough catharsis temperature returned to normal, but a laryngitis followed. He expectorated several small clots of blood and voice became husky and remains so at the present time. Now has a continual irritation in larynx for which he frequently clears the throat. No pain in chest or cough since. Has been confined to his bed most of the time for past eight weeks on account of weakness. Slight evening rise of temperature for past ten days (99-100°).

Physical examination: Poorly nourished and developed. Height, five feet, six inches. Weight, 105 pounds. Cervical, axillary, cubital and inguinal glands are normal in size. Apex beat in fourth interspace left sternal line. Trachea is pushed about half an inch to right. Tactile fremitus absent over lower portion of chest with marked flatness and an occa-

sional faint breath sound. Abdomen is negative. Left undescended testicle, tender to touch, two inches above external ring. Extremities, reflexes and pupils negative.

Laboratory reports: Urine negative. Blood count August 1: Red cells, 5,050,000, white cells, 7,800, hemoglobin, 98. September 1: Red cells, 5,110,000, white cells, 9,600, hemoglobin, 100. Wassermann negative. Non-protein nitrogen, 38. Blood sugar, 80. Polymorphonuclears, 81 per cent; small lymphocytes, 14 per cent; large lymphocytes, 4 per cent; transitional, 1 per cent. September 1: Polymorphonuclears 79 per cent; small lymphocytes, 15 per cent; large lymphocytes, 4 per cent; Eisinophils, 1 per cent; basophils, 1 per cent.

X-ray stereoscopic plates August 2: Right Lung: Thickening and fibrosis of lung root zone. Left lung: In apex, bulging out from mediastinum, are irregular, rounded, nodular masses extending out to within circle of first rib and downward in bunch-like formation to upper part of lung root. The whole lower portion of lung is thickened. Oblique plate: Posterior mediastinum is obliterated by enlargement of glands.

Stereo plates, August 9: Shadow at base of left lung, more dense and nodular masses distinctly enlarged compared with plates a week ago.

Stereo plates, September 2: Mediastinum pushed to right; right heart border two inches out of place toward the right. The left lung is obliterated with dense shadow, not as dense in upper third as at base. Outline of tumor masses show definite increase in size and shape as compared with previous plates.

Stereo plates, September 18: Increase in shadows in base of left lung. Shadows which extend out from upper mediastinal area into left thorax doubled in size as compared with plates of August 2.

Examination of larynx: Some edema of the arytenoepiglottic fold. No ulceration.

Sputum: No acid fast bacilli or elastic tissue. Complement fixation test for tuberculosis negative.

Treatment: Patient was given 500 milliampere minutes of deep X-ray.

Patient died October 18. Autopsy showed left lung completely involved except about two inches of the apex. Mediastinum filled with involved glands. Retroperitoneal chain of glands involved, but no growth was found in the abdominal organs. New growth spindle cell sarcoma.

Case 2.—M. V. C., age 38, American, female, single. Family and previous history, negative.

Present condition: Nine months ago, developed severe cold in chest after having been bowling. Cold lasted several months. Had pain in chest. Began to lose strength and weight quite markedly. Four months ago had X-ray of chest on account of some cervical adenitis. Adenitis disappeared under X-ray treatment, but pains in chest and dyspnoea grew worse.

Physical examination: No cervical or axillary glandular enlargement. Left lower chest is larger than right. Varicose veins on both breasts and on chest wall. No breath sounds heard in the left chest anteriorly. Posteriorly breath sounds much diminished on left side.

Laboratory findings: Urine shows trace of albumin. Blood count: Red cells, 4,680,000; white cells, 6,000; hemoglobin, 87. Polymorphonuclears, 87 per cent; large lymphocytes, 3 per cent; small lymphocytes, 6 per cent; eisinophils, 3 per cent. Many cremated red cells.

Stereoscopic plates: The mediastinal glands are enormously enlarged. There is a tumor-like mass filling all the mediastinal area. The left chest cavity is completely obliterated over the lower two-thirds of the lung. The right lung shows an extensive encroachment due to the enlarged mediastinal tumor running the entire length of the thoracic cavity.

Treatment: Patient was given 950 milliampere minutes of deep X-ray to the chest, side and back. Grew progressively worse under treatment.

Case 3.—J. C. G., age 29, Spanish, single, male. Family and previous history, negative.

Present condition: Two months ago, after a dinner of sea foods, felt nauseated and had a sense of something choking him. Since then he has felt a sense of suffocation and dyspnoea, which has become more and more marked until at present he is unable to assume a reclining position. Coughs a good deal, which aggravates the chest pain and frequently raises some blood-stained mucus. No heart discomfort. Slight nausea and vomiting at times. Some eructation of gas. Has lost 35 pounds in weight. Sleeps very poorly on account of pain and dyspnoea. No difficulty in passing urine. Neisserian infection fourteen years ago. No luetic history. No headache. Somewhat nervous. Bowels move regularly once daily. No sore throat. Eyes and ears negative.

Physical examination: Frame short and heavy. Nutrition above par. Muscles soft. Skin negative. Lips a trifle cyanotic. Joints normal. Superficial glands are not enlarged. Tongue is coated. Thyroid negative. In upright position patient shows difficulty in breathing. Chest is well formed. Expansion limited. Percussion gives poor resonance over both lungs down to the fifth rib anteriorly. Posteriorly the resonance is fair below the scapula. Respiratory sounds are rough. Congestion over both hiluses and to less extent over both lungs. Apex beat is not seen or felt. Cardiac dullness difficult to obtain. Heart sounds are distinct. No definite murmurs or accentuations. Abdomen is normal in contour. No localized tenderness or rigidity. Liver and splenic dullness are normal. Reflexes are present.

Laboratory findings: Urine negative. Blood count: Red cells, 5,310,000; white cells, 5,700; hemoglobin, 80. Non-protein nitrogen and blood sugar normal.

Fluoroscopic: Right diaphragm free. Left diaphragm higher than right and moves slightly. Left lung is almost obliterated by dense shadow which reaches the costal border from the diaphragm to the first interspace. The mediastinum is pushed over to the right. Right lung is clear. Left border of heart is not seen.

Stereo plates: An opaque shadow practically fills the lung roots with the exception of a slight border of pulmonary tissue, more extensive in the apex and base. This mass of density practically reaches the pleura about the mid-axillary line. On the right side it extends into the lung from the mediastinum and obliterates all the markings of the lung root. The line of demarcation is very distinct between pulmonary tissue and tumor and runs vertically from the inner third of the clavicle to the corresponding point on the dome of the diaphragm.

Stereo plates one month later: The mediastinal shadow has not changed much under deep radiotherapy. There is now a very huge massive shadow showing that the tumor is causing extensive pressure in both directions. On the left it extends out to the pleura throughout the middle half of the lung. On the right side there is a distinct line of demarcation between the pulmonary tissue and the tumor mass which runs down the middle of the lung area in a vertical position. The patient died one week after the last plates were made, but no autopsy was obtained.

CONCLUSIONS

1. Sarcoma of the mediastinum though rather rare, is not uncommon and should be more frequently considered.

2. The prognosis is unfavorable because

diagnosis is usually not made until late in the disease.

3. Various treatments have been conscientiously tried out, but with very little if any results except perhaps to retard the progress.

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THE PRECANCEROUS CERVIX*

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The term "Precancerous" is employed with no apologies or qualifications. The ghastly increase in the incidence of cancer in the United States calls for emphatic and impressive terminology to describe any tissue which exists as a malignant potentiality.

Precancerous tissue is a structure in which, as the result of injury, infection, or chronic irritation, cancer is known to habitually occur. The gross visual diagnosis of early malignant disease will never be possible to an extent sufficiently great to eradicate the disease before lymphatic involvement has taken place. An anticipatory diagnosis of malignancy in a structure, commonly subject to this pathological change, assumes a precancerous state based upon conditions, indisputably the forerunner of this disease.

Less than 50 per cent of all cancers of the uterus are operable. Nearly 90 per cent of all cases of uterine cancer originate in the cervix. The seat of the growth may be in the vaginal mucosa of the cervix, or in the Cervical canal or its adjacent glands. Only 3 per cent of cervical carcinoma develop in nulliparous women. Ten thousand women in the United States die each year of carcinoma of the uterus. Three-fourths of the cases die within two years, and one-third within one year after the onset of the disease.

The prevalence of cancer of the uterus is estimated to be increasing at the rate of about 2.5 per cent per year. The Census Bureau in 1922 reported that about 24 per cent of deaths among women during that year were from cancer of the uterus. Bland has stated that within the past forty years, the deaths from uterine cancer have doubled.

Carcinoma of the cervix (uteri) is a disease of middle life, the greater number of cases occuring between the thirty-fifth and forty-fifth years. Clinically the first six months of the disease are without symptoms or signs, and since it appears about the time of the menopause, menstrual disturbances are common, and in many cases at the onset, the symptoms are attributed by the patient to the beginning of the menopause and are usually considered unimportant.

Many lives could be saved each year, if in the course of the physical examination of every female patient between twenty-five and forty-five years of age, a careful visual inspection of the cervix supplemented the digital examination of this organ.

In a case in which it is noted that the cervix is nodular, infiltrated, and enlarged, with a denuded ulcerated surface, or a proliferating finely granular surface, both of which bleed on the slightest touch, the presumption that malignancy exists is justified.

In the advanced case, with markedly increased vaginal discharge, changing from mucoid to watery type ,or with sudden severe hemorrhage, attention is drawn at once to the possibility of carcinoma of the uterus. Prolongation of the menstrual flow or increased frequency of the menstrual flow, are also suggestive of the presence of the lesion under consideration.

When, in the presence of one or more of these symptoms, there is found at examination, definite gross pathological evidence of carcinomatous degeneration of the cervix with lymphatic invasion, and incurability in the vast majority of cases; the diagnosis at this stage of the disease is a reproach to the medical profession, and treatment is invariably futile.

Cancer of the uterus can be said with certainty not to exist, if the cervix is the seat of numerous cysts.

If uterine scrapings are examined in the fresh state, and are found to be smooth, reddish or brownish and glistening, the condition is practically always benign. On the other hand if the scrapings are whitish or grayish and granular, or resemble brain tissue, the condition is practically always malignant.

Epithelioma is not found in an eroded cystic cervix, or in the cervix of a prolapsed sclerotic uterus. (A. C. Broders Mayo Clinic).

Cancerous invasion of the lymphatics means incurability of the disease; although the defense set up by the lymphatic chain of nodes draining the involved area may prolong the ultimate dissolution of the patient. Little nodes of fibrous tissue containing only a few cancerous cells may escape detection in roentgenograms of the lungs. (W. J. Mayo).

An early squamous cell carcinoma of the cervix was accidently discovered by Cullen, when the body of the uterus was being curret-

*From the Gynecological Service of the Grace Hospital, Detroit, Mich.

ted for hemorrhage caused by hyperplasia of the endometrium, and by a small submucous myoma. The scrapings showed very early malignant disease accidently discovered, and a second currettment sustained the microscopic diagnosis of cancer arrived at when the first scrapings were examined. Radical extirpation of the organ affected a cure, and saved this patient a dreadful death.

Lewis, in Baltimore, some years ago, amputated a cervix uteri, and serial sections showed early carcinoma present in the tissue. The area of excision had removed the entire growth before metastases had taken place, and in this case the patient was saved.

A case recently came under my observation of a woman of fifty years passing through the menopause. Examination revealed a hard, nodular, indurated cervix, bleeding readily when touched with cotton. Fifty milligrams of radium were applied for 24 hours. The local evidence of correct application of the radium to the cervix and contiguous vaginal wall was indisputable. Six weeks later, the tissue under suspicion was more suspicious than ever. The paient was urged to have an immediate surgical removal of the organ. She consulted another physician who concurred in the diagnosis and advice given, and promptly amputated the cervix. The histological study of the sections of this tissue did not reveal malignant disease. This evidence in no way controverts the belief that early cancerous growth was not rendered innocuous by preliminary radium treatment.

The sacrifice of a potentially and grossly appearing carcinomatous cervix in this case carries with it no inconvenience to the patient and should be the attitude taken where "watchful waiting" may carry into the case an indictment of professional responsibility amounting to cruel negligence.

The employment of a follow up system, periodically tracing every female patient of the cancer occuring age and subjecting her to bi-annual examinations, and ruthlessly sacrificing any or all suspicious tissue, (cervical) will be a great step taken to break the strangle hold which cancer of the uterus is maintaining and tightening on all civilized society.

Early diagnosis, and complete and thorough eradication of the disease under discussion; is our only hope for the future. The removal, occasionally or often, of suspicious non-malignant tissue need occasion no reproach on the operator's part.

It has been wisely said that "It is a safe rule to always assume malignancy until the contrary is proved." (Howard Kelly).

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A MASTOID CASE WITH COMPLICATIONS

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Mr. E. B., aged 58, entered the hospital on July 16th, complaining of some pain, swelling and tenderness below the right ear, associated with a rise in temperature. About six weeks previous he began feeling badly, being weak and tired and having a lack of endurance. This progressed gradually and his family physician advised the extraction of his teeth, which were in an extremely bad condition. This was done, following which he was confined in bed with symptoms of generalized absorption and toxemia. As he complained of a diffuse indefinite pain and soreness in the right side of the head and neck, he was examined for a possible sinus infection or mastoid involvement. The sinuses were found to be normal. Both ears were found to be the seat of an old chronic exhaustive otitis media which the patient stated had been present since early childhood. The hearing was greatly impaired, but as the examination was made in the home, the functional tests were not made. The fundi of both canals were slightly moist, but no purulent discharge was present. There was no tenderness or swelling over either mastoid, but on the right side there was a definite tenderness just below the tip of the mastoid process, extending downward along the muscle sterno-cleido-mastoideus. There was no swelling and the tenderness, which was only slight, was thought to be the result of infection from the infected teeth which had been extracted a few days previous to the patient's admission to the hospital.

Upon entering the hospital the patient had a temperature of 99, with a pulse of 128, and appeared to be very seriously ill. There was a fairly profuse, very foul smelling discharge from the right external auditory canal, with definite tenderness over the mastoid process, especially at the tip. A hard, firm, nonfluctuating, slightly tender mass, about the size of an egg, was present just below and behind the angle of the right jaw. The leucocytes were 19,200, with the polymorphonuclears being 85 per cent.

An operation upon the mastoid was done on the day of admission to the hospital. The mastoid process was found broken down and filled with very purulent, foul smelling pus. The bony covering of the lateral sinus had necrosed away, the sinus being covered with pus and granulations. In removing these the wall of the vessel was niched with the curette. Bleeding was extremely free, thus proving that no thrombosis was present. The enormous broken-down mastoid cavity was thoroughly curretted, but a radical operation was not performed, owing to the extremely poor condition of the patient.

The post-operative course was uneventful for the first week, when suddenly the temperature rose to 102.5. It fell to normal the next day, but went up again each day for the next two days, each rise being preceded by a chill. It was then normal for two days, when the patient had another elevation, this time to 103.5. No chill preceded this elevation. Of course, an infected sinus thrombosis was thought of in connection with these changes. The leucocytes on two successive days were 9,500 and 10,000 respectively,

with 85 per cent of polymorphonuclears. The patient did not appear ill, nor did he have any toxic appearance. About the time of the last rise in temperature a large, firm mass about the size of an egg appeared below the ear and behind the jaw, very similar to the one that was present previous to operation, but which had since disappeared. Pressure on this caused much pus to be expressed from the mastoid wound. Hot fomentations were applied and the mass gradually subsided without incision, the contents draining out through the incision above.

Simultaneous with the rise in temperature and appearance of the mass the patient began to complain of a feeling of fullness in the throat and difficulty in swallowing. Inspection revealed all the soft tissues of the throat and palate markedly water-logged and edematous. This condition was apparently due to pressure on the veins along the neck by the deep seated indurated mass mentioned above. The edema readily subsided upon the disappearance of the mass. Repeated examinations of the urine were negative. The blood Wassermann was also negative.

The functional tests of hearing following the operation reveal a totally deaf ear on the left side, and only a small vestige of hearing on the right. Both the C and C4 forks are heard on the right side only when struck forcibly. The hearing is improving gradually for the conversational voice as time goes on. There is no spontaneous nystagmus nor past-pointing. No nystagmus whatever is produced on turning in either direction with the head in various positions. No vertigo is produced upon turning, nor is any past pointing obtained, thus showing that the vestibular portions of both labyrinths are gone beyond stimulation.

At the time of this report, two months following operation, the wound behind the ear is practically closed, but the fundus of the canal still contains a small amount of purulent secretion with a slight odor. A radical mastoid operation may yet be necessary, but should be avoided if possible in order to preserve the vestige of hearing which is present only in the right ear.

CONCLUSIONS

This case is of particular interest because of:

(1) The slow gradual onset without any definite signs or symptoms of mastoid involvement.

(2) The sudden development of chills and fever, simulating a lateral sinus thrombosis, but which was due to a cellulitis and accumulation of pus deep in the tissues along the side of the neck.

(3) The marked edema of the soft tissues of the throat, due to pressure from the indurated mass.

(4) The findings obtained from the functional tests of hearing and the vestibular tests.

EUROPEAN IMPRESSIONS

WILLIAM J. STAPLETON, JR., M. D.
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Harley Street

We call it the street of Life and Death,
Of quickening pulse, and bated breath;
For Hope and Suspense pace side by side,
And the portals of Fear loom dark and wide.

It is also the Street of tenderness,
Where kind eyes glisten at our distress,
For Knowledge and Skill and Sympathy meet
And hold the secrets of Harley Stree.

—Beatrice J. McMullen.

Harley Street is called by the poetess the "Street of Life and Death," because in London Town, it is the place where all the great consultants of London live.

One of the joys of London is walking, making as an objective some point of medical interest, so I always go to Harley Street just because of its association. Other streets have an interest—at 31 Golden Square lived John Hunter, at 14 Hertford Street resided Edward Jeuner, and at 10 South Street, Park Lane West lived the "Lady of The Lamp" Florence Nightingale, the Mother of modern nursing. Then the hospitals of London would take many days to visit—all have interesting histories—St. Bartholomews, or "Barts" as it is called, has just been celebrating its anniversary with a huge fair to raise funds. Guy's Hospital was mentioned in the public prints the other day under the following heading: "Guy's Hospital was the first place in England where clinical instruction was given—1723," and then followed the paragraph concerning the founder:

GUY'S HIDDEN TOMB

The tomb of Guy, founder of the London hospital bearing his name, is to be reopened for public inspection.

Guy was buried in the crypt beneath the chapel of the hospital, but as the only means of reaching it was through the matron's kitchen, very little public interest was taken in his resting place. A new entrance has now been provided by the hospital authorities.

In addition to Guy, William Hunt, who made a handsome bequest to the hospital 100 years ago, was buried in the crypt. He was interred there at his own request, in order "to rest as far as possible from the villain, my brother."

The Hunterian Collection in the Royal College of Surgeons should be seen by all visitors—beside the Hunter Collection there is a very fine series of pathological specimen from the great war. The building of the Royal college of Physicians is open to physicians, and on the Strand is the home of the British Medical Association. London as a postgraduate center is growing in importance, due to the work of the American University Union in Europe. There is now, as a result of cordial co-operation of the profession in London a well developed organization for postgraduate work.

The address is:

Post-graduate Medical Association,
No. 1 Winpole Street, London, W. I.

Secretary: Miss M. A. Willis.

The office is in the building of the Royal Society of Medicine, a beautiful and extremely well equipped institution with lecture halls, laboratories and rest rooms for the comfort of its members. To my mind this building is an example for all ambitious medical societies to copy. At the office, one can obtain for six pence a "Bulletin" of the different courses. There are many supplementive courses posted on the bulletin

board. The report shows an average of 160 P. G's in London last year. The chairman of the association is Sir W. Arbuthnot. The medical schools in London and the hospitals admit holders of the P. G. tickets to their general practice including clinical intsruction in the wards and outpatient departments, clinical lectures and demonstrations. PM. demonstration, etc. at the rate of one month £6, or $30.00, two months, £10, or $50.00, three months £13, or $65.00, six months £18, or $90.00, and one year £20, or $100. Courses can be arranged in almost any specialty including tropical medicine.

London is a wonderful city and will in my mind soon become a great postgraduate center for English speaking physicians. There is no trouble on account of language as in the continent. The material and teachers are there, and all that is needed is correlation. Living in London is more expensive than Paris or Vienna, but one who settles down can be very comfortable without undue expense. Beside the medical work the time spent there can be made profitable in more than one way. In a cultural sense the limit of possibilities depends on the individual.

We now pass over the English Channel, and make our way to Paris.

PARIS

Paris hasn't the vogue with American doctors that Vienna has. Before the great war there was no definite effort made on behalf of foreign physicians desiring advanced work. Now the French government through its control of the medical schools and hospitals has established what is known as the "Association Por Le Development Des Relations Medical entre La France et Les Pays Allies Ou Amis." The headquarters are located in the L'Ecole De Medicine.

Address—De Renseignements (Information Office) Salle Beclard, Faculte De Medecine, Paris.

Here between 9-11 a. m. and 2-5 p. m. there is in attendance an English speaking secretary who will supply you with programs of lectures, lists of hospitals, clinics, give you a map showing where the medical institutions are located and any other needed advice.

In the official list are noted thirty-five hospitals many of them named after famous French physicians, such as Hospital Laennec, after the man who introduced the first stethoscope, Hospital Claude Bernard, after that great student of metabolisin, the father of our modern internal secretions and ductless gland therapy, Hospital Broca after the founder of modern brain surgery, Clinique Tarnier after the obstetrician and originator of the axis traction forceps, the Institute Pasteur and others. This to my mind is a fine idea perpetuating the memory of the great men of medicine. Whenever I go to Paris one place always claimed a visit—the Morgue—that queer old building back of Notre Dame where the dead lay exposed to the morbid curiosity of seekers. This time the old building had vanished. Soon is to rise in its place a fine institute for medco-legal work which will be the most complete in the world. The French and Austrians have been the leaders in scientific medco-legal work along criminal lines, and this new institution will offer opportunities for postgraduate institution in this most important work.

In Paris there are excellent opportunities for work in nervous disease, internal medicine and dermatology, also in X-ray work.

Along these lines there is issued by the "Faculte de Medicine of Paris" for the year 1923 a supplemental course, a list of which is given in a pamphlet entitled: "Cours Complementarie et de Perfectonnement," that is really P. G. work in surgery, medicine, obstetrics, gynecology, etc., at the special hospitals devoted to these subjects. They are definitely outlined courses lasting as a rule for two months, limited as to number of students. Cost 150 francs per person or about $9.00 at the present rate of exchange. Paris of course is a delightful city to live in. Prices are a little higher than Vienna, but not so high as London. Talking with a young physician from Philadelphia who was doing neurological work at the "La Salpetriere," he said his total living expenses were about $10.00 a week.

The hospitals in Paris can easily be visited by obtaining a permit from the chief of police. All are under government control—many of them are very old buildings but some have excellent equipment. Visitors are cordially received. There are several very interesting museums like Charcot's at old "La Salpetriere" where you can see his library, his original manuscripts and drawings. The Musee Dupuytren tucked in behind the medical school with its association of the great French surgeon whose life reads like a romance. From a poor boy he rose to be chief of Hotel Dieu and died a millionaire and a Baron of France. The fine collection in the Musee d'authropologie and the little Musee Orfila where there are a lot of old surgical instruments including those used for the autopsy of Napoleon.

A knowledge of French is highly desirable, as little English is spoken in France or in the French hospitals.

SWITZERLAND

Now we board the train and go via Switzerland to Berne, its capital, where Kocher holds forth in the Spital doing his great work on goitre, to the Republic of Austria, stopping on our way at the quaint old cities of Innsbruck and Salzburg. At Salsburg is buried in the old church yard the founder of chemical pharmacology and therapeutics —Aureolus Theophastus Bombastus von Hohenhien or Paracelsus. To music lovers Salzburg claims attention as the home of Mozart, the famous composer. Leaving Salzburg we ride for eight hours through the beautiful scenery of the Austrian Alps and arrive at Vienna, or Wien as it is is called in German.

VIENNA

For many years Vienna has been the Mecca for physicians seeking postgraduate work in Europe, and justly so. The American Medical Association of Vienna with its headquarters in the Cafe Zur Klinik IX Wein, at the corner of Spitalgasse and Lazarettstrasse has a complete organization for taking care of the medical men seeking information relative to postgraduate work. To anyone thinking of doing work in Wien I strongly advise the obtaining from the secretary, Mrs. E. M. Kreidl, a copy of the "Blue Book," price $1.00, issued by the association. This book is a veritable mine of information giving a list of courses, with teachers, hours and prices, hospitals, a plan of medical Vienna, a short historical resume, lists of hotels, pensions and rooms, in fact—it is a complete Baedeker to Medical Vienna.

Brush up on your German before going over. Of course there are teachers specializing in medical German but that takes time. While many excellent courses are given in English—a glance at the University lecture schedule will show that much of the best work is given in German.

I quote from the Blue Book—"Vienna is not a short order establishment." A stay of six months or over has as many advantages over a hurried trip as a leisurely dinner has over a rush order of "Coffee & Pie." The latter is neither palatable nor sustaining. Many come here with the impression that living in Austria is very cheap. This is not exactly true. Things are less, but the cost is increasing. Prices for courses are in American money and vary from $3.00 to $5.00 an hour in small groups.

One thing struck me rather forcibly, that July and August are not the best months in which to do P. G. work in Europe. Many of the leaders are away on their vacations and the work is at its lowest ebb. Of course, I do not mean to say that there is not real work being done but it is mostly by assistants. You will be heartily welcomed in Vienna, for beside the medical work Vienna is a most fascinating city with its opera, theaters, wonderful museums, monuments and palaces, its Ringstrasse lined with shops and its population of kindly people. One enjoys not only a postgraduate in medicine but in all the other things that make life worth living. One day I went to Prof. Frankel's laboratory. He asked me where I lived. "In Detroit." "Oh, then you know my friend Dr. Davis, the pathologist." I was only too glad to say that I counted Dr. Davis as a friend. This served as an introduction. He invited me to attend his lecture, took me to the clinic, and altogether I had a most delightful three hours with this great teacher. He told me to give his love to Dr. Davis and to say that he hoped to come to America again, and give a series of lectures—one session to be in Detroit. If he comes I know one who will be in attendance. Prof. Frankel speaks excellent English and is a great admirer of America. In the Clinic I saw several operations—some were done under spinal anaesthesia which is extensively used in the Peham Clinic, others under general and a curettage without an anesthetic. Some operators wore no gloves, some cotton and one rubber. One gynecologist did an exploratory laparotomy and finding the condition in the bowel, immediately sewed up the wound and referred the case to the surgical section.

Leaving Vienna we journeyed to the south tot the beautiful Salzkammergut region in Styria where we spent three delightful weeks. I was greatly surprised at the large number of cases of goitre called by the natives "The Styrian Collar" or "Styrian Neck." Post in his book "Pathological Physiology of Surgical Diseases" mentions on page 345—in an article on the "Thyroid Gland" that Kutschera working in Styria found that although certain houses were supplied by water from the same source, some of the inhabitants had goitre and others none. He showed how little the water theory applied. He tells about the "Goitre Houses" which are still spoken of by the inhabitants of Styria. In Switzerland there is also a striking number of goitre cases but it seemed to me I noticed more in Austria. Oswoold—Post again—page 346 says that in 84 per cent of the inhabitants of Switzerland the thyroid gland has a greater weight than in regions free from goitre.

Along this line there is an interesting

story of the Cretins in the novel by Honore Balzac entitled "The Country Doctor."

Besides the hospitals and clinics there are the spas or "Bads" which are of special interest to the medical man. In passing I wish to say that in Europe there is vastly more attention given to the question of climate, diet, baths, use of sunlight and other natural methods of curing disease than in this country. The psychology of the health resort in such towns as Bad-Aussee, Bad Ische and Baden-Baden in Tustria—Wiesbaden and Carlsbad in Germany, Evian and Vichy in France and all the other scattered through Europe has a tremendous value. This consists in not only the palatial and well equipped bathing establishments but in the Kurpark with its symphony orchestra, its fountains playing, people listening to the music and strolling about. Good opera and theaters and even the gambling places help to divert the mind and add in the cure. This idea of entertainment might with profit be carried out in our own Mt. Clemens for example.

SCOTLAND

On our way home we stopped for a short visit in Scotland. In Glasgow there has been established a central organization called "The Glasgow Postgraduate Medical Association" for the purpose of arranging, co-ordinating, and administering postgraduate medical teaching in Glasgow and the west of Scotland. General and special courses will be arranged and a comprehensive permanent scheme has been adopted. It is anticipated that Glasgow will become one of the leading centers of graduate medical teaching in the near future. The University of Edinburgh and its work is too well known to need any comment here.

DYSTOCIA RESULTING FROM PATHOLOGY OF THE SOFT PARTS OF THE GENERATIVE TRACT*

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The fact as to whether or not a lesion of the fleshy birth canal or of the soft parts contiguous to it, will cause obstruction at labor depends upon the position, size, consistency and mobility of the lesion. Treatment must be based upon what we find on examination. Our decision to interfere on discovery, at term or after the trial of labor, is of the same importance as our decision for procedure following mensuration of the bony pelvis.

*Read before Section on Gynecology—M. S. M. S., Grand Rapids, Sept., 1923.

It is not my intention to dissuss in this article, any tumors arising from the walls of the pelvic basin, or to speak of dystocia to dry labor, or to cite any of those rare instances where an adherent placenta praevia interferes with the progress of the presenting part. These theses are border line, and demand discussions in themselves. Proceeding from below upward, the obstructions which one meets, naturally occur in the following regions: The vulval, the vaginal, the cervical and region of the lower uterine segment, the fundal and the extrafundal.

In many instances the abnormalities include more than one of these situations. Under these circumstances the pathology will be discussed as a whole.

OBSTRUCTION TO LABOR OCCURRING IN THE VULVAL REGION

Where the lesion is of congenital origin, the closure is usually complete. (3).

Instances have been reported of coitus by urethra, one case in particular demonstrating two small sinuses leading from the meatus into a vaginal pouch (4). The child was born by Cesarean section. There were no other anomalies present. It is not very often that the hymen is tough enough to resist the fetal head. If there is an opening at all, and dilatation does not occur readily, incisions may be made freely to relieve such an obstruction. Much more common are stenoses of the acquired type. They may follow a vulvitis of gonorrheal or puerperal origin, from typhoid, small pox, scarletina, dysentery, dibetic urine, irritating discharges from fistulae, masturbation, violent coitus, actinomycosis, tuberculosis, all producing an ulcerous condition resulting in scar.(5). Individuals so affected reraly become pregnant, since coitus is impossible or difficult. The same may be said of neoplasms of the malignant type. I find no instances where such women have become fertilized. On the other hand, benign tumors (2) such as lipomas of the labia, have acted as blocks to the passage of the head. (Cysts are of frequent incidence. They are usually of the retention variety and may exhibit hyalin degeneration (2). In a patient of my own, first seen whhen three months pregnant, a submeatal cyst, which undoubtedly would have obstructed delivery, was discovered and removed. It measured nine centimeters by six centimeters.) Varices, edema, although often extensive, do not as a rule produce difficulties. Hematomas sometimes do. An active and extensive blood tumor may distend the vulva and require excavation before the delivery of the head can be achieved. In such instances there is no reason at all why the cavity cannot be closed by obliterating sutures following the third stage.

We now come to those vulvar atresias following operative procedures. Cases of acute closure have been reported (8) following stupidly given enemas where the nozzle of the syringe has perforated the cellular tissues, producing edema and requiring operative delivery. But by far the most common instances of obstruction from manipulation, follow too thorough repairs of previous lacerations (1). Care should be taken not to suture the levator too high, and to avoid doing extensive dissections which tend to reduce the amount of scar tissue. Especially must this be said of intermediate repair during the child-bearing period.

DYSTOCIA DUE TO OBSTRUCTION IN THE VAGINAL REGION

Due to incomplete fusion of the Muellerian ducts, septa more or less perfect sometimes divide the vagina. These are often associated with double uterus. The question as to whether or not they cause dystocia, depends upon their distensibility. Sometimes partaking of the normal elasticity of the vaginal wall, they are shunted aside by the head. Other times they become strapped over the vertex like a frenum and require clipping with the scissors before the head can descend. Somewhat similar bands occur as the result of trauma following previous difficult labors. These must be treated in the same way. Annular constrictions may require multiple incisions. In all obstructions, resistance to progress varies with the position of the lesion. They may produce imperfect flexion or lack of rotation, or they may deflect the occiput into the hollow of the sacrum (21). Membranous septa tend to break spontaneously; the fleshy ones, if they do not hypertrophy and soften, must be incised. Since the operation is simple enough, it is best to give the patient the trial of labor before interfering.

Orvosi (28), Morgagnee (22), Deveze (29), and others, report stenosis of the vagina due to extensive scars, where, in their judgment, Cesarean section was required. In most instances the scars involved the upper third of the vagina, where vaginal incision would be dangerous. The atresias resulting from inflammation, including the injection of escharotics, usually dilate during labor. The same infectious processes which produce cicatrices of the vulva, may also leave scars in the vagina. The resulting passage may be tortuous and hard and during labor must not be allowed to rupture from the pressure of the presenting part. Again dystocia may arise in elderly primiparae from lack of elasticity or in the apprehensive from spasm, or where vaginismus is present. In all these, narcotics and anesthetics, with or without manual dilatation, may be tried. In this place I should like to impress the importance of the bladder and the rectum, in relation to the vaginal tract. If either one of these visci is distended by its respective contents, difficulties of engagement may occur, or even arrest of the head in mid-pelvis. In the case of multiparae with cystocele or rectocele, which have become filled and pouched across the passage. Vesical calculi, while not causing obstruction, as a rule, do an inestimable amount of damage to the bladder (19) by impingment of the head. On the other hand, carcinoma of the rectum often causes obstruction. During pregnancy its growth is rapid, so that if the condition is operable and discovered in the early months, abortion should be performed, followed later by a radical operation. If inoperable, pregnancy should be allowed to continue and a Cesarean done at term (18).

Masses encountered in the vagina include hematomas, which must be evacuated, and cysts, myomas and fibromas, which should be treated prophylactically. The latter consists of variable amounts of smooth muscle bundles with connective tissue and tend to hypertrophy and become edematous during pregnancy. In a series of cases collected by Guder (11) four were removed before labor, one before birth, followed by spontaneous delivery, one patient delivered herself normally in the presence of the tumor. There were three forceps, two versions, one breech extraction, and three Cesarians.

Although primary malignant disease of the vagina is rare, (12) it most often follows injury with or without repair, and since injury in this region is common, one wonders why the condition is not more frequently encountered. Rhodes collected twelve cases, of which only two gave birth spontaneously. The diagnosis of this condition is easy, the disease progresses rapidly during pregnancy, and the prognosis is bad. Certainly in no instances should the child be delivered through the birth canal.

LESIONS ARISING FROM CERVIX AND LOWER UTERINE SEGMENT

Much more common than malignant disease of the lower tract is cancer of the cervix, both of the squamous and adeno type. The first delivery makes every woman a potential candidate for the disease in this region (39). Yet few cases of pregnancy at term in the presence of cancer have been reported. Apparently malignancy hinders impregnation, but when this does occur, it is said to rupture the membranes early in most instatnces (40). Moreover, as a rule, these patients are too old to be subject to pregnancy. It is estimated that pregnancy with cancer occurs about every 2,000 times. According to Shoemaker, a cervix so affected shows no tendency to dilate or flatten during labor. Because of this, and of the chances of dis-

semination of the tumor cells through pressure, it is sound dictum not to permit labor to occur (32). In the event that the cancer is inoperable, pregnancy should be continued in the interest of the child (36). If the condition is discovered in late pregnancy, and the minor extent of the growth permits operation, a Porro should be done (33). In the early months under the same circumstances, a Wertheim, without regard to the pregnancy, is indicated (33). Since cancer increases rapidly during gestation, such a case may become inoperable at term. It has been shown that the results of a radical operation upon the gravid uterus have been nearly as successful as upon the non-gravid.

The treatment of malignant disease of the cervix by radium is, perforce, in the experimental stage (4). Whether or not it has an untoward effect upon the fetus is not known. Field (38) reports of a patient who received 7,320 mg. hours of radiation, which dispelled a cancerous mass in the cervix, but left a trace in the vagina. She was delivered of a four-pound baby after normal labor, without hemorrhage or laceration. The child was said to be healthy at three years of age. There was a recurrence in the cervix following the puerperium. I do not consider, however, that this patient should have been allowed to deliver herself.

One other form of malignancy of the cervix and lower uterine segment is of interest, although of unusual occurrence. Chorio Epithelioma has been known to develop here during pregnancy and to have thus obstructed labor (64). It might be said that the commonest form of cervical obstruction arises from the presence of undilatable scar tissues. This accrues from the use of the cautery, silver nitrate, radical operations or amputations, from ulcers, from senility, from conglutination, from adhesions of membranes about the os, and from syphilis. Especially syphilis renders the cervix tough and undilatable. In conglutination of the external os, we have a disturbance of the circular fibres, which refuse to expand under normal conditions. Elderly primiparas are especially prone to exhibit this phenomenon. The os remains small with thin margins, and may often be sprung by fingertip pressure. Monchotte states that he has encountered undilatable scar tissues following a too vigorous curretment of the cervix. Any number of observers (74) report atresias following infection. Of the post-operative scars it may be said (71) that the dystocias are not so bad, if the incisions have not been carried to the vaginal vaults, or through the lower uterine segment. Experience has taught us that antero-posterior incisions yield the best cicatrix. Progress of labor may be held up to the point of sacculation of the posterior aspect of the lower segment, with the result that ruptures have been reported at this point (82). With the contraction ring continually rising and the lower segment thinning correspondingly, a transverse laceration is produced through which the fetus may be expelled. Obstruction due to scar is usually not difficult to handle in the vaginal portion of the cervical canal and delivery through the abdomen is rarely indicated. But treatment must be instituted and that promptly, both for the sake of the child the thinned-out uterine segment, and for the sake of the cervix itself, which may be torn off annuarly. One may dilate such cervix by means of the rubber bag, the hands, the Goodell dilator, by multiple incisions (taking care not to extend them too high), and by vaginal hysterotomy.

Another impediment to progress which the cervix offers is edema (72), This, of course, is evidence of disturbed circulation. Perhaps the head is arrested by some other cause, and, as a result, a cervical ring of edema is formed, which acts similarly to the well-known contraction ring. Aside from the fact that this pressure may bring about necrosis of the bladder or rectum, the immediate result is the arrest of progress. Such edema sometimes takes the form of pedunculated tumors (78) occurring on the anterior and posterior lips, of which the anterior may become wedged between the head and the vulvar ring. Obviously, this peculiarity arises from a head deeply situated, which cuts off the return circulation from the cervical region. It has been stated that deep infection with much scar produces a similar condition. The presence of edema, in short, calls for a trial of taxis or possibly incision between clamps, followed by an immediate delivery with forceps. Cases of prolapsus of the cervix, with accompanying prolapse of the bladder or rectum, must not be confounded with the above condition. Cases have been cited (73) where the external as has been projected four inches beyond the vulva, and where replacement has been impossible. In these instances, the head must be worked out with forceps, while taxis is applied to the extruding parts.

Formerly most cases of undilatable cervix were treated by vaginal hysterotomy, or by multiple incisions. Today there is a marked tendency to do the abdominal operation. Personally, I believe the best results would be obtained, if those cases which exhibited scar cervices, immobilized high, or cervices likely to produce hemorrhage—all other con-

ditions being equal—were delivered from above, while those of all other types were delivered from below. Naturally, the former cases would be rare. Dystocia, due to congenital malformations of the cervix are in themselves uncommon, for the uterine and vaginal mal-developments are more often at fault. But cases have been reported where the head was held back by a band crossing the vagina, i. e., a septum between two cervices, which required slitting, before the head could proceed. Also, I note an instance of absence of the cervix. The patient was delivered by Cesarian.

FIBROIDS ORIGINATING IN THE CERVIX AND LOWER UTERINE SEGMENT

These may be grouped under three headings: (1) Those which are sub-mucous and tend to be extruded in front of the head (81). Since women with tumors so situated are not to become pregnant in the first place, or to continue pregnancy in the second, such phenomenae are rare. (2) Those situated intra-murally which interfere with the dilation of the cervix, or if large enough, produce mechanical obstruction. (3) Those which lie sub-serous and which may be pedunculated or not. The more pedunculated, the better chance there is for dislocation upward, either by manipulation or by the upward pull of the lower uterine segment during labor. It may be said that those originating from the posterior wall have a poorer chance of rising from the pelvic basin, on account of the projection of the sacral promontory. Any and all of these tumors may produce dystocia, not only by blocking, but also by deviating the presenting part from its natural direction. Thus we have transverses and abnormal presentations. In former years, many Porro operations were done to alleviate these situations, but today a great deal of sound expectancy is exhibited by the obstetrician who understands that each case is a separate problem; that pedunculated tumors originating in these regions, offer chances of upper displacement, especially during labor (83); that tumors projecting through the external os, may be removed in many cases when partial dilation and descent has occurred (81) and that, at laparotomy following the delivery of the child, the interstitial tumors may be enucleated (67 and 89). All these procedures must be instituted in the light of their mechanical characteristics. We know that not only is the musculature of these tumors hypertrophied during pregnancy, but that they are vastly edematous, due to circulatory changes. We also know that they lie in a very vascular bed. If for any reason hemorrhage is likely to be dangerous, we must modify our operative methods. We must be most radical when the tumors are softened or necrotic.

DYSTOCIA DUE TO CONDITIONS OF FUNDAL ORIGIN

Patients pregnant exhibiting fibromyomas arising in the fundal region are encountered fairly often and usually this pathology is not inimical to smooth labor. The fact that pregnancy is more frequent in the third decade and the tumors in the fifth, is the principal reason why their incidence together is not more striking, although it has not yet been settled whether fibroids are responsible for sterility or a result because the man or the woman is sterile. Due to the invasion of the tumor itself into the uterine cavity, to adhesions, or to tortions of the uterus caused by adhesions, and to necroses, spontaneous abortion or premature labor, occurs in about 35 per cent. Possibly reflex contractions of the uterine muscles also contribute to these early terminations of the pregnancy. Many patients continue gestation without incident, others suffer abdominal pain, or if the mass is situated near the mucosa to a steady trickling of blood till term (87). If the woman comes to term the prognosis in labor depends upon the situation of the tumor upon its size and consistency and upon its degree of motility. Kelly and Cullen (90) report various cases which did and did not interfere with pregnancy and which did and did not produce miscarage following the operations, when they were deemed advisable. Certain of the tumors undergo a hemolitic necrosis, the so-called red or carnious degeneration, which extends from the center of the mass to its periphery and may disintegrate, forming a cyst. It is therefore of prime importance that the consistency of all tumors be noted, because the rupture of such a cyst in labor might prove disastrous. Another reason for removing such a cyst upon discovery, is that it may develop some dangerous toxic substance. Granted that many fundal fibroids may be inocuous, that many of the submocou vsariety may be expelled before the descending head (93), they, nevertheless, require close observation. Lobenstein, in his collection of 100 cases, noted thtat 85 per cent came to term, with 75 per cent spontaneous deliveries. He therefore interferes operatively only for definite indications and may slough during the puerperium. Many labors (97) are rendered possible by the flattening of these tumors due to their softness. Fibroids often escape notice, or may be mistaken for parts of the fetus. Of 66 patients treated expectantly at the Mayo Clinic, ten had Ce-

sarian at term. Where ascension occurs, it happens three times more frequently from the anterior and lateral wall, than from the posterior wall, the latter tending to mobilize late during labor.

Soft tumors are said to ascend more readily than hard ones and this movement may occur, even if the tumor is closely united with the uterus. If the cervical ascent on the other hand is persistent, the prognosis is worse than if it tends to descend and approach the medium line. Therefore, according to Ballard and Dehan (100) the treatment of tumors should not be decided upon until labor occurs. Then if intervention is necessary it should not be delayed beyond three hours. It is interesting to note that the successful dislocation of a tumor by taxis, permits the cervix, which is pushed upward and out of the medium line, to descend into the middle of the pelvis (100). But certain operators condone this practice (102) since they feel that the trauma resulting may complicate the puerperium. A case (104) cited with multiple fibroids projecting into the uterine cavity and delivered by version, experienced an infectious convalescence during which time two tumor masses, weighing 500 and 800 grams were extruded. This suggests that manipulation from below is not without its dangers ,and I feel personally that, due to the uneven thickness of the uterine wall and its pronounced points of weakness, version is usually contraindicated. In the event that delivery from below is impracticable and that the conditions warrant a laparotomy, the question arises, what the procedure shall be. If the tumor cannot be shelled out from above, it is probably best to do a Porro operation in order to obviate hemorrhage or the chances of the tumor's becoming infected. All laporotomies upon patients with cystic or necrotic tumors should be done before labor begins. Marshall (111) divides all cases into three groups. Those for the trial of labor; those for myomectomy and those for the Porro operation. Hirst (114) considers the Porro operation indicated in all cases of multinodular fibroids. The procedure of diminishing the size of these tumors by irradiation, is still in the experimental stage. Evidence seems to show, however, that although the effort on the fibroid is favorable, it may produce abnormalities in the child.

The congenital anomalies of the uterus do not, by any means, invariably produce dystocia. In uterus unicornis, labor is possibly retarded by the oblique direction in the inlet, thus encountering the resistance which the presenting part is shunted toward of the opposite wall. Usually in uterus septus we get a vertex presentation and in bicornis with a common cavity breeches. In uterus introrsum arcuatus, the lateral expansion results in transverse positions especially, as this anomaly is usually accompanied by a short artero-posterior diameter. In the event that the uterus is double, the non-gravid organ which always partakes of a certain amount of enlargement, may obstruct labor, if it becomes prolapsed below the promontory into the pouch of Douglas. Uterus didelphys, comprehend two complete halves, bound together by connective tissue bands, and each having its own appendages, with two distinct cervices and usually a double vagina (107). Fifty-four such cases reported, had 64 pregnancies, only 41 7-10 of which resulted in spontaneous birth. Dystocia resulted from blockage by the non-gravid half and vaginal septa, as well as from incompetent uterine musclulative etc. When there is only a single cervix present in these fundal malformations, the condition usually escapes notice.

Displacements of the full term fundus causing difficult labor, may be either forward or backward. The latter anomaly is more rare since most patients abort. Due to the fact that there is excessive thinning of the anterior abdominal wall (which may mean rupture) and to the displacement of the cervix forward and high out of the pelvic brim, Cesarian is here indicated—the more so because of the unfavorable fetal position produced. Multiparae with pendulous abdomens or excessive diastases of the recti, may exhibit the fundus forward over the symphysis. Sometimes this occurs, too, through post-operative ventral scars (96-94-89). Such conditions respond readily to treatment. With the patient upon her back, a tight binder is applied from below upward, thus reducing the hernia and heading the presenting part for the pelvis.

Sometimes dystocia follows sacculation due to adhesions. These usually result from anterior abdominal fixation or suspension. It is a question whether or not suspension should be done upon patients during the child-bearing period. Unless such individuals are sterilized, since so many instances have occurred where the fundus has remained fixed during gestation, most frequently the posterior wall alone distends, throwing the external os above the promontory. Or both walls may hypertrophy resulting in a buckling of the anterior, thus dividing the uterine cavity by a crescentic fold (94). Of 359 cases of anterior fixation coming to term there were 20 Cesarians, 24 forceps, 1 destructive operation, and 3 ruptured uteri. There were 10 transverse

positions. In regard to vaginal fixation of the fundas, after the manner of Watkins-Werthein, a laparotomy is invariably indicated.

I. F. Stein (115) feels that Cesarian Section should be done for the benefit of the mother, with sterilization, even in the presence of a dead fetus. The picture here shows the undistended fundus at the level of the symphysis, the cervix pointing upward and backward and out of reach of the examining fingers, while the distended posterior wall is on the upper and anterior aspect. Hence, in doing hysterotomy the posterior wall is incised. The dystocia here is due, not merely to the position of the cervix, but also to the posterior sacculation of the fundus which in Stein's cases (4) produced three transverse positions and one breech.

DYSTOCIA DUE TO EXTRA FUNDAL MASSES

These masses may include dislocated kidneys, usually the right, or the spleen, but such obstructions are not of common occurrence. Nor is the ecchinococcus often met with, although (49) it may cause distention of a tube and therefore dystocia. It is most often an ovarian tumor which blocks the way. From the fact that these may rupture during labor, they should be removed upon discovery, the more so because it may be impossible to differentiate them from a dermoid cyst, rupture of which would be doubly dangerous, or from a malignant tumor. Even if the discovery occurs during labor, it is best to do a Cesarian and remove the tumor (45). Mechanically these cysts may do no harm, particularly if the pedicle is long enough to permit the rise of the mass from the pelvic basin. A tumor which prolapses, so that it becomes hooked under the promontory, is the least likely to become satisfactorily mobilized. The practice of puncturing an obstructing cyst, through the vagina (42), is to be condemned, since its contents are unknown and its escape into the peritoneal cavity might lead to infection or to dissemination of malignant material. The same can be said for forcible taxis through the vaginal vaults, in order to dislocate the pelvic mass. Williams (50) collected 107 cases of ovarian tumors complicating pregnancy. There were 47 cystic, 46 dermoid, 9 malignant, 5 fibromas and 2 colloids. The maternal mortality was 21 per cent and the fetal 50 per cent, but these figures, in the main, were collected before operative interference was usual. The diagnosis is made by the excessive enlargement of the abdomen beyond the duration of the pregnancy, by the presence of a mass in the pelvis or abdomen, detached from the uterus, occasionally by pain, and sometimes by symptoms of abortion. There is no doubt that fertility is markedly reduced in the presence of these tumors, especially if the growth is bilateral. The dermoids, which are next in frequency of occurance, usually have long pedicles. This permits early mobilization into the abdomen where bone and hair may occasionally be felt. The bony elements, too, may be demonstrated by the X-ray. The small solid tumors are said to be the most obstructive since they tend to stay fixed in the pouch of Douglas (53). The malignant tumors of the ovary fall more or less into the same category. According to Bey (60), all double tumors should be removed at once, since they are either papillary in type, or malignant. All of these extra fundal masses must be differentiated from the dilated bladder, sub-serous myoma, uterus bicornis, (53) and pelvic abscess (61). A case of the latter has been reported, upon which a Cesarian was done, after which the abscess was drained.

SUMMARY

Due to the legion types of lesion of the generative tract, it is difficult to formulate rules upon which treatment during pregnancy and labor may be based.

In general, it is safe to state:

1. That all hollow, or degenerated, or operable malignant tumors demand interference upon discovery without regard to the pregnancy.
2. That patients exhibiting one or more of the other lesions probably requiring Cesarian may proceed to term
3. That simple vulval and vaginal lesions may be taken care of during gesttion.
4. That border line cases may be given the trial of labor.

PATHOLOGICAL ACTION OF THE UTERUS AS A CAUSE OF DYSTOCIA*

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Any given uterus may be said to contract normally when in a reasonable length of time it can dilate the cervix, expel the products of conception and control the postpartum bleeding. The definition of what is "reasonable" from the standpoint of time is very elastic and varies in different individuals. For this reason it is extremely difficult to differentiate between normal and abnormal contractions. Usually, however, the normal length of labor is consid-

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ered to be from 18 to 24 hours in primiparae and less in multiparae dependent upon the lessened amount of birth canal resistance encountered. Also the secondary expulsive forces, that is, the adbominal and diaphragmatic muscles may lengthen or shorten the time of the second stage. If, however, in an otherwise normal labor the uterus fails in one or more of the above mentioned functions its contractile force may be considered inadequate and its action pathologic.

Pathological uterine activity may be divided into two main classes . In the first, and by far the most common, may be placed all cases of deficient uterine power or what is generally known as uterine inertia. In contrast to this is hyperactivity of the uterine muscle, either as a whole or in part.

For the sake of discussion, inertia may be divided into two groups. First, those cases in which at no time have there been present contractions of sufficient force to cause any material progress in delivery. To this type the name primary inertia has been given. Secondary inertia, on the other hand, is that condition where there is a pause or cessation in the contractions which up to the appearance of the inertia have been apparently normal.

As labor approaches, the obstetrician can with a fair degree of accuracy estimate the size and position of the child. Pelvimetry affords a method for approximating very satisfactorily the size of the bony pelvis. Vaginal or rectal examination will disclose scar tissue or obstructive tumors. In other words, the attendant may be fairly well posted on any probable cause of dystocia in a given case so far as the passage and the passenger are concerned. He is, however, left groping blindly in the dark when it comes to prognosticating normal or abnormal uterine activity.

A woman who has responded well to the work demanded of the uterus in one pregnancy is quite apt to do so in a subsequent one. But when attending a woman for the first time, who can say, "Her contractilc force will be normal and labor progress to a rapid, happy termination?" It is often the strong, athletic type of woman who, much to her own surprise, will have lingering, ineffective pains, while her weaker, less healthy sister will have no difficulty at all.

True, primary inertia is a rare occurrence. Many women have irregular contractions of the uterus for several days with little or no advance of labor. However, the majority of such cases, if left alone, will eventually exhibit a change in the contractions and later will terminate spontaneously. Are these cases to be considered cases of primary inertia, or are they merely manifestations of false labor? Undoubtedly the differential diagnosis is often difficult. The obstetrician is forced to realize, on the one hand, that a patient worn out physically and nervously by several days of aggravating pains, daily becomes a less good risk for operative interference while, on the other hand, he must admit the desirability of the procedure if a few days of waiting and encouragement will eventuate in spontaneous delivery.

Many authors have advocated the use of some drug, in an attempt to change false labor pains to true labor contractions. Ehrenfest used quinine for this purpose, finding that with this drug labor will be speeded up to a normal termination in the case of false labor while its effect on true primary inertia is practically nil. During the past year we have had several occasions to follow out this procedure in the Obstetrical Department of the University Hospital and have found it very efficacious in many instances. Other authors have used pituitrin. However, as a general rule, pituitrin should be reserved until after the birth of the child as its premature use even in small doses has proved to be dangerous to both the child and the mother.

The various etiological factors which have from time to time been ascribed to primary inertia are innumerable. The most common and seemingly logical ones have for their basis some pathology of the uterine musculature. Maldevelopment of the uterine muscle would fall under this class. Again, multiple, interstitial, fibroid tumors may so impair the contractile force of the uterus as to render its efforts at cervical dilatation comparatively fruitless.

I had the privilege of seeing during the past year a most interesting case of this type of inertia.

Mrs. R. C., Mult., age 30. Family and personal histories negative. Last menstrual period Jan. 30, 1922. History of a long difficult labor, finally terminated by manual dilatation and forceps extraction and complicated by an adherent placenta and postpartum hemorrhage. Pains started the morning of November 13th, 1922. They were frequent, but at no time did they seem to be especially forceful. Labobr continued in this manner for 33 hours, at which time the cervix was dilated only about three centimeters. In view of this fact, associated with the history of a different labor previously, the diagnosis of primary inertia was made.

Cesarean section was chosen as the preferable method of delivery. Upon opening the abdomen the uterus was found to be studded with many small multinodular fibroids. Following the delivery of the child, the uterus was extremely atonic and except for one severe contraction, following an injection of pituritrin, remained boggy. The uterine wound was closed, but the uterus refused

to contract, despite direct massage, applications of heat, and further injections of pituitrin and ergot. The uterine bleeding continued and the pulse rate rose to 150. At this point it was deemed that further delay was dangerous and a supravaginal hysterectomy and right salpingo-oopharectomy was done, and the bleeding controlled. Following this the patient rallied somewhat, the pulse became stronger, and she left the operating room in fair condition. Both mother and child made a good convalescence and were discharged on the twenty-second day.

Endometritis and metritis with scar tissue infiltration have also been known to so alter the uterine muscle as to render its contractile force inadequate.

Again, it is a well known fact that the contractions of a uterus overdistended by hydramnious or twins are very apt to be weak and ineffective.

On the other hand, as was stated before, it is impossible to prognosticate how any uterus will respond. There will always be those cases where no etiological factor for inertia can be found, yet where the uterus does not contract with sufficient force to materially advance delivery. It is this type of case that offers the greatest difficulty, not only as to the cause of the dystocia, but also as to the proper procedure to follow.

In general, expectancy and observation combined with supportive measures and encouragement, is the most prudent course. When, however, shall the line be drawn and operative interference be resorted to? Cragin advocates waiting until there is an indication that further delay will endanger the health of the child or mother. Danger to either is small as long as the membranes rupture long before complete dilation of the cervix is accomplished. The mother is then exposed to the dangers of intrapartum infection and the child to asphyxiation by a reduction in the size of the placentral area. With the appearance of danger to either of the patients interference is indicated.

The operation of choice depends upon the condition of the cervix, the presentation, position and the station of the presenting part.

Thus in a case of rigid cervix Cesarean section may be indicated. An example of this type of case has already been mentioned. On the other hand, if the cervix is easily dilatable delivery from below entails less risk to the mother.

An illustration of this condition is found in the following case which occurred recently at the University Maternity Ward.

Mrs. H. W., age 33, multipara. The family and past histories were negative. Marital history: One previous pregnancy. Labor very difficult. Uterus did not contract well and after two and one-half days of extremely painful contractions the child was delivered by manual dilation and forceps extraction. Some bleeding for five weeks following delivery. Last menstrual period April, 1922. Antepartum history negative. Examination on entrance showed a well built woman, heart and lungs negative. Pelvic measurements within the limits of normal, outlet relaxed. External os admitted finger tip with a moderate bilateral laceration of the cervix. Head engaging, occiput left posterior position. Contractions started about 11 p. m., January 28; very painful, although they did not seem to be extremely forceful. Morphine had practically no effect on the pains. Contractions continued at intervals of three to four minutes, lasting 45 to 60 seconds for about ten hours, when they became somewhat irregular, but still very painful. Rectal examination showed the cervix to have dilated to about four centimeters. Head slightly lower down, occiput still in left posterior position. Membranes intact. After about five hours, pains again became more regular, coming every three to five minutes. Suffering on the part of the patient was extreme. She continued in this manner for seven hours, or twenty-two hours from the onset of labor. Rectal examination showed practically no advance in dilatation. Despite the pain, at no time did the contractions seem to be strong. At this time the fetal heart rate was ranging between 140 and 170 and becoming of less good quality and slightly irregular at times. Because of the lack of advance, despite the seemingly painful but inadequate contractions and because of the history of a long labor previously, which necessitated operative termination, it was felt that one might be dealing here with a case of primary inertia. For this reason, and because of the rapidity and irregularity of the fetal heart, it was decided to deliver.

The patient was therefore anesthetized and the cervix dilated manually and a version and extraction performed. The child was somewhat asphyxiated, but was soon resuscitated.

The mother and child were discharged on the fourteenth day in seemingly good condition except for relaxation of the mother's pelvic floor and a bilateral laceration of the cervix, which was to a large extent present at entrance.

Manual dilation and version were chosen in this case instead of Cesarean section because it was felt that the cervix was dilatable and delivery per vaginum was the less dangerous procedure.

The danger of too great procrastination is well shown by the following example:

Mrs. L. W., age 23, primipara.

The past history showed the patient to have been treated for lues. Examination at the beginning of labor showed a slightly funnel pelvis. Head entering pelvis, position O. R. P. Cervix closed, but beginning to thin out. Labor began the evening of December 16. Pains about every five minutes, poor quality, lasting about 30 seconds. Continued in this manner until the next morning, when the pains stopped and she slept for five hours. The cervix was dilated about one and one-half centimeters at this time. Contractions as before throughout the rest of the day and that night. Examination the next morning showed the cervix dilated two centimeters. Patient very tired. She was given morphine and slept for eight hours, when pains continued as they had previously. Contractions continued in this manner throughout the day. The next morning, or 80 hours after the onset of labor, the membranes ruptured spontaneously and the pains returned, this time of slightly better quality. Examination that afternoon showed the head still not engaged, the cervix dilated about three centimeters. Contractions continued about the same throughout the night. The

fetal heart up to this time had been regular and varied between 120 and 140. The next morning the fetal heart began to go up to 170. There was some meconium in the vaginal discharge. The pains were no more effective and the cervix was dilated about four centimeters. The mother's temperature was 100.8, pulse 120 and of good quality.

Because of the lack of advance after five days and the fact that the contractions had at no time been of the strong effective type it was felt that we were dealing with a case of primary inertia. For this reason, and because the fetus showed evidence of asphyxia, it was decided to deliver.

In view of the seemingly undilatable cervix in a primipara, associated with a moderately funnel pelvis, it was deemed advisable not to attempt delivery from below. Low Caesarean section was chosen in preference to the classical method because of the long labor and premature rupture of the membranes.

The child was a male weighing seven and one-half pounds and was easily resuscitated.

The mother had a very stormy convalescence. The wound was infected. She showed evidence of an endometritis and later developed an infected thrombosis of the right pelvic vein and leg. She was finally discharged on the fifty-third day post-operative in seemingly good condition.

Here, however, it is felt that interference was delayed too long and that a more timely Cesarean section would have saved the mother much suffering and morbidity.

Secondary inertia in contrast to primary inertia is a relatively common cause of dystocia. While inertia may develop secondarily from any of the factors causing primary inertia it is far more often nothing but a tiring out of the uterine muscle. The musculature has acted normally and there has been progressive advance of labor up to a certain point. But here, due either to some associated cause of dystocia, or to a lack in the reserve power of the musculature, the uterus finds itself unable to further counterbalance the resistance offered and it gradually ceases to function as an expelling force.

The most common conditions which complicate delivery and lead to the development such as an occiput posterior position or a disproportion between the presenting part and the pelvis. These conditions, however, are to be dealt with in the following papers and need not therefore be discussed here.

It is the physiological property of any muscle to become exhausted, but it is also the physiologocal property of any muscle to recuperate under rest. If then, labor is at such a stage that no harm can come to the child or mother by rest, that is, if the membranes are intact and the presenting part is not causing pressure on the pelvic soft parts, the procedure is simple. The patient should be put to sleep by some suitable narcotic, morphine in one-quarter grain doses being very efficacious in this intsance. Thus the uterine muscle is allowed to recuperate and regain its tone.

If, however, labor has progressed to the stage where the presenting part is low in the pelvis and the cervix practically dilated, much harm can result to the maternal soft parts by allowing the presenting part to remain on the pelvic floor, even though the pressure caused by uterine contractions is neglegible. At this stage also definite damage to the fetus, as indicated by changes in the rate and rhythm of the fetal heart beat may result from a lessening of the placental circulation by contraction of the placental site. In such cases operative termination of labor is indicated, the choice of the procedure depending on the conditions present.

As was stated in the beginning, uterine contractions may err in either of two directions. Ineffective contraction, or inertia, has been dealt with. There remain to be discussed those cases in which the uterine contractions are too powerful, when there exists hyperactivity of the uterus.

Hyper uterine activity may manifest itself as a generalized property of the entire uterus or it may be confined to an isolated portion of the uterine musculature.

Rather arbitrarily, perhaps, a labor which results in the expulsion of child and secundines in less than three hours has come to be designated as precipitate labor. This condition is the result of hyperactivity of the entire uterine muscle.

In reviewing the last 240 cases at the Maternity Ward of the University Hospital this condition was found in 13 instances or five and one-half per cent. However, at least 6 of the 13 were known to have had effective contractions before pain was experienced. That is, labor had in reality begun. This would reduce the frequency to a little over two and one-half per cent. From these figures it will be seen that precipitate labor in its broadest sense is an infrequent complication of pregnancy. If we were to include only those cases where the uterus contracts with such force and frequency as to push the child through rather than between the pelvic structures, the occurence would be indeed rare. It is for the latter should be reserved. In this type of case such accidents as deep cervical and perineal lacerations, rupture or inversion of the uterus and injury to the child present themselves, but the over-powerful uterine contractions as a rule can be controlled by anesthesia, and counter pressure be exerted on the too rapidly advancing part.

Bandl first described the thickening of the muscular tissues at the junction of the upper contracting and the lower non-contracting portions of the uterus and this muscular ridge has, since that time, be-

come known as Bandl's ring. That it exists to some extent even in the easiest of labors may be shown by carefully examining this region immediately after the birth of the child, when it will be found to stand out as a more or less prominent muscular ridge encircling the junction of the upper and lower uterine segments. It is with this structure alone, or together with the rest of the uterine musculature, that the more serious types of hypercontraction dystocia are associated. But let it again be emphasized here that this type of dystocia is a rare complication of labor.

Harper has recently stated that three types of pathological contraction ring may exist, namely, tonic contraction ring, tonic retraction ring and isolated contraction ring or contraction ring dystocia.

The first of these, the tonic contraction ring, is associated with tonic contraction of the uterus. It is brought on by some extrinsic obstruction of labor, such as a contracted pelvis and, therefore, is the result of and not the cause of the dystocia. As this paper deals with the dystocia caused by abnormal uterine contractions it need not further be considered. Suffice it to say that it is the result of increased tonic contraction and thickening of the upper, with a compensatory thinning out of the lower uterine segment, and to point out that it is the only type of contraction ring which rises progressively from the pelvis toward the umbilicus as labor progresses.

In tonic retraction ring, on the other hand, the ring, together with the retracted uterus, are the cause rather than the result of the dystocia. By retraction is meant a state in which there is not complete retraction between contractions, the entire uterus being applied closely to its contents in a state of persistent retraction. Whether or not this retraction is due to over excitability of the uterine muscle is still an unsolved problem, but the fact remains that such conditions do exist and give rise to serious obstruction to the completion of labor.

The location of the ring is stationary and its relation to the fetus depends upon to what station the presenting part has advanced. Thus it may be either in front of the presenting part or around the neck or body of the child. In either case the ring forms an obstruction to further dilation of the cervix by preventing the lifting up of the lower uterine segment or, if the cervix be already dilated, to further advance of the child by contracting down tightly in front or around it.

The most characteristic symptom of this type of dystocia is pain in the lower abdomen, this being in contradistinction to the more usual type of pain in normal labor which is located toward the back in the region of the sacrum and coccyx.

Examination of the patient shows the uterus to retain its tone to an excessive extent between contractions, the child being palpable with difficulty. The lower abdomen is extremely tender to palpation, the cervix incompletely dilated and rigid. The ring is firmly applied to some part of the child and does not rise out of the pelvis. It can not therefore be palpated as a ridge or furrow running across the abdomen as is the case with the tonic contraction ring mentioned previously, but only by internal examination and even then with difficulty, but only by internal examination and even then with difficulty in those cases where it is formed above the presenting part.

Isolated contraction ring, on the other hand, does not show abnormality of contraction in the upper uterine segment other than some irregularity in the normal uterine action. Here the region of the ring is contracted in a hard, board-like ridge which may run completely or partially around the junction of the upper with the lower uterine segment, while the fundus shows complete relaxation between contractions. It is nothing more or less than a stimulation of the circular muscles of the uterus at this point. The primary etiology is as yet unsettled though faulty innervation and disturbed stimulation have both been offered as plausable explanations.

Where this condition occurs in the third stage of labor it may give rise to retention of the separated placenta and is better known, because of its suggestive shape, as hour glass contraction of the uterus. Many cases of hour glass contraction have been reported following the use of pituitrin and ergot during the second stage of labor. That the improper use of such drugs may give rise to this condition is borne out by the fact that they tend to cause hyper-excitability and contraction of non-striated muscle.

The most prominent symptoms of isolated contraction ring are atypical uterine contractions associated with absence of the progressive dilation of the cervix. The pain, unlike tonic retraction ring, is not constant, varying with the relation of the contraction ring to the presenting part. When above the presenting part the pain is usually increased while conversely when below the presenting part the latter has a tendency to be held up away from the cervix, thus reducing the pressure on the soft parts and lessening the pain. In many cases there is an associated pelvic hyperesthesia, vag-

inal examination being almost impossible without the aid of an anesthetic.

The cervix is usually well dilated. The membraines may be intact at first but usually rupture as the condition persists. A striking and almost pathognomonic sign, when present, is recession of a well engaged presenting part out of the pelvis and away from the cervix. In the ring in front cases, however, the ring may be palpated only with great difficulty as the examining finger is passed around the presenting part which is held firmly in the pelvis.

Inasmuch as these conditions are probably the result of over-activity of the uterine muscles, the most logical form of treatment is to obtain a thorough relaxation of the entire uterus. This may best be obtained by deep and prolonged ether anesthesia. Because of the tendency toward recurrence of the condition as the relaxing effect of the anesthesia wears off most authors advocate operative delivery while the patient is still under the anesthetic. A careful manual dilation of the cervix should therefore be attempteed after fifteen to twenty minutes of anesthesia. If at any time during the manipulation there is a tendency to contraction, operative procedure should immediately be discontinued until the anesthesia can be carried deeper, as further cervical irritation will only tend to augment the condition. The relaxation of the ring having been obtained by deep anesthesia and the cervix fully dilated, that form of extraction best adapted to the case at hand should be carried out.

Finally, in the treatment of either type of abnormal uterine contractions it must be remembered that the danger does not end with the delivery of the fetus. Bleeding from the opened veins of the placental site is stopped normally by definite uterine contraction and retraction. In inertia these properties are, to a large extent, lacking. There is no place here for a discussion of the treatment of post partum hemorrhage, but this complication should always be borne in mind during the intrapartum treatment of contractile pathology of the uterus.

DEEP X-RAY THERAPY IN MALIGNANCIES OF THE CERVIX AND UTERUS—PRELIMINARY REPORT

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The study of the effect of irradiation on deeply seated malignant tissues is becoming more and more important inasmuch as deep X-ray therapy is being advocated by many prominent radiologists in America and is extensively used in the place of surgery in some of the foremost clinics in Europe. In a few instances surgeons in this country have been induced to try high-voltage therapy in the so-called "operable" cases in the place of Wertheim statistics as recorded in 1912: "Six mented with X-ray treatment at a later time. Sufficient time has not elapsed as yet to determine the permanency of the results obtained from deep X-ray treatments in this country. The immediate improvement in most of these cases is very gratifying.

It requires no great effort to find many records of unfavorable results in cases where radical surgical treatment was instituted a very few days after the diagnosis of deep-seated malignancy was made. The percentage of cures five years after operation for carcinomas of the uterus is extremely small even in the cases which were considered operable. Davis of the Massachusetts General Hospital stated in one of his recent clinics that the Wertheim operation is one of great technical difficulty attended by a considerable mortality and frequently with annoying complications. He gave Wortheim statistics as recorded in 1912: "Six hundred seventy-five cases of radical abdominal hysterectomy were done with an operative mortality of 16.6 per cent and in 380 cases, 43 per cent were classed as cured after five years." The above records are for the operable cases. Surgeons find that less than 35 per cent of the cervical and uterine malignancies are suitable for operation. Of these, some surgeons state 30 to 35 per cent are clinically well five years after the diagnosis was made. This means that only approximately 10 per cent of all cervical and uterine malignancies are cured by surgical treatment. In deep X-ray therapy, we are not privileged to select our cases as being favorable or unfavorable from an operable standpoint. In fact, it is usually the hopeless cases that are referred for treatment. Seventy-four per cent of the cases which are being reported below are inoperable and are indeed very unfavorable cases from a surgical viewpoint. Twenty-six per cent constitute the operable and borderline cases.

In order that a comparison of statistics may be made between surgical cures and X-ray cures, the results of Zweifel, Doderlein and Wintz, who have been using deep therapy for a number of years, are quoted. Zweifel reports 35 out of 41 favorable cases, or 81 per cent cured and living five years after Roentgen irradiation for carcinoma of the cervix uteri was instituted. Doderlein reports 13 inoperable cases well after five years out of 214 inoperable cases which were treated. Wintz treated about 500 cases of carcinoma of the

body of the uterus and reports that 70 per cent show arrest of the disease four years after treatment. Forty-five per cent of the treated cervical carcinomas are living four years after treatment.

We do not wish to suggest that deep X-ray therapy should be substituted in the place of surgery in operable cases of carcinoma of the cervix and uterus before we can definitely show that this form of treatment is superior to surgery in the borderline cases. The X-ray therapist is anxious to treat every borderline case of malignancy without surgical treatment in order that trustworthy conclusions may be drawn from this form of treatment alone. For the present we feel that X-ray should be used as a supplement to surgery in the operable cases. There does not seem to be sufficient teamwork existing between the radiotherapist and the surgeon. This lack of co-operation is largely due to the fact that high-voltage therapy is still considered by many physicians to be a branch of experimental treatment which may never pass beyond the experimental stage. Even though our results may be very low when absolute cures are recorded in these inoperable cases, the immediate improvement noted in most of our cases and reported by many other radiotherapists places deep X-ray therapy as one of the foremost agents in combatting malignancy. We are tabulating the preliminary report of the result of treatment of 19 cases of carcinoma of the cervix and uterus treated with the high-voltage method in the X-ray department of the University of Michigan Hospital to emphasize the immediate improvement. Later we hope to present the permanent results and trust that some of these cases may be classed as cured after five years of observation.

The technique used in treating these cases is that recommended by Dessauer; the cross-fire method was used which enables us to get the proper depth dose without producing any skin damage. In dealing with carcinomas of the cervix and uterus, the diseased tissue is located approximately in the center of the body. Careful measurements were made of each patient and a cross sectional drawing was made to conform to the measurements. These outline drawings were then placed on the Dessauer charts and the dose was determined. As many portals of entry were used as was necessary to give the desired depth dose in the area of diseased tissue. It sometimes required as many as five points of entry to administer the proper depth dose. Extreme care was exercised in determining the depth dose as both over and under treatment causes serious damage. One must never overlook the fact that deep X-ray therapy is a potent agent which is capable of doing as much damage when improperly managed as good when properly controlled. High voltage produces rays of short wave length which have great penetrating power. Copper filters were used to absorb the rays of long wave length. It is the long waves or the so-called "soft" waves that act so readily on the skin, producing a skin erythema long before the deeper structures receive even a stimulating dose. Copper filter allows only the short waves to pass through them. By proper filtration, a homogeneous radiation is directed towards the diseased tissue. Secondary rays from the copper are absorbed by the aluminum filter.

PREPARATION OF THE PATIENTS

Before deep therapy is given, a complete blood examination is made, including a differential count. Patients are placed on a liquid diet twelve hours before treatment is given. This is done to lessen the nausea and vomiting which frequently follows long treatment. We have never given more than four and one-half hours of treatment in one day.

Following treatment patients are kept on a soft diet as long as nausea persists. Alkalies are prescribed when there is danger of acidosis from inanition or from toxemia from malignant degeneration. We have never had reactions severe enough to require blood transfusions or intravenous hypertonic saline solution, which many European therapists have recommended and used for the so-called "Roentgen Ray Sickness."

Some of our patients have had diarrhoea starting two or three days after treatment and lasting perhaps for a week. However, this has never been an alarming symptom and has been easily checked.

The high voltage treatment machine was installed in the University Hospital in January, 1923. The first uterine case was treated by this method January 25, 1923. Since then twenty-one uterine cases have been referred for deep Roentgen ray therapy, making a total of twenty-two cases treated by this method. Nineteen of these cases were referred from the Department of Gynecology by Dr. Reuben Petersen and his staff. The three remaining cases were treated as post operative out patients for referring surgeon and consequently no gynecological record was made.

Our records are based on the study of nineteen cases having complete hospital records. The following chart emphasizes the salient features of each case.

Case No.	Age	Clinical Diagnosis	Pathological Diagnosis	Extent of Lesion	Duration of Symptoms	Associated Conditions	Previous Operations	Surgical Treatment	X-Ray Treatments	Operable	Results and Remarks
8280	43	Carcinoma	Squamous	Broad	3 Months	None	None	Cautery	Pre-Cautery 1/4 cu. 12-17-22 1/4 cu.	Inoperable	Clinically Cured. General Condition Improved.

Case No.	Age	Clinical Diagnosis	Pathological Diagnosis	Extent of Lesion	Duration of Symptoms	Associated Conditions	Previous Operations	Surgical Treatment	X-Ray Treatments	Operable	Results and Remarks
8380	43	Carcinoma Cervix	Squamous Cell Ca.	Broad Ligament	3 Months	None	None	Cautery	Pre-Cautery 1/4 cu. 12-17-22 1/4 cu. 1-23-23 1/4 cu. 3-23-23 1/4 cu. 7-6-23 Deep Therapy	Inoperable	Clinically Cured. General Condition Improved.
2534	55	Carcinoma Uterus	None	Bladder Rectum	1 Year	Lues Latens	None	None	Deep Therapy 1-25-23	Inoperable	No Follow Up Report.
2549	42	Laceration Ca. Uterus	Advanced Medullary Squamous Cell Ca.	Entire Pelvis	About 2 Years	None	None	Cautery 1-2-23	Deep Therapy 1-30-23 3 hours 4-4-23 1½ hours 7-7-23 3½ hours	Inoperable	General Condition Improved—Able to do Own Housework; General Filtration of Pelvic Organs.
2563	33	Carcinoma Uterus	Sqquamous Cell Ca.	Broad Ligament	Unknown	Lues Latens	None	Cautery	Deep Therapy 2-2-23 3 hours 5-4-23 3½ hours 8-4-23 3½ hours	Inoperable	5-4-23, Clinically Cured—General Condition Improved. 7-31-23, Palpabble Lemon-sized Mass in Posterior Cul-de-sac.
2568	45	Fibroid Carcinoma?	Adec-CVarcinoma	Broad Ligament	4 Months	None	None	D & C	2-3-23 160 minutes 5-1-23 3½ hours 8-14-23 3½ hours	Inoperable	Condition about same. Pains stopped for a Month Following Treatment.
2575	51	Laceration Ca. Uterus	Advanced Medullary Squamous Cell Ca.	Entire Pelvis	1 Year	General Debility	None	Cautery 2-12-23	2-8-23 160 minutes 5-3-23 200 minutes	Inoperable	8-20-23, Progress Poor—Loss of Appetite and Loss of Weight.
2595	50	Carcinoma Cervical Stump	Medullary Squamous Cell Ca. Cervix	Apparently Limited	About 1 Year	None	Hysterectomy 14 Years Ago	1-30-23 Radical Removal of Cervix	2-14-23 3 hours 5-28-23 4 hours	Operable	5-25-23, No Signs of Malignancy.
2626	43	Laceration Malignancy?	Advanced Medullary Squamous Cell Ca.	X-Ray Evidence of Mass in Sigmoid	8 Months	Marked General Debility	History of Operation 6 Weeks Ago	D & C 2-20-23	2-28-23 4 hours	Inoperable	Gradually Getting Weaker—Hopeless Prognosis.
2628	31	Laceration Ca. Uterus	Advanced Medullary Squamous Cell Ca.	Entire Pelvis Uterus Fixed	1 Year	Lues CNS Nausea and Vomiting	None	Biopsy	3-1-23 200 minutes	Inoperable	Died 4-14-23. Gumma of Medulla. (See Discussion of Case.)
2631	62	Carcinoma Uterus	None	Entire Pelvis	3 Months	Secondary Anaemia	None	None	3-2-23 200 minutes	Inoperable	No Follow Up Records.
2753	43	Fibroid	Advanced Ca. Cervix	Limited?	No History	Vesicovaginal Fistula from Child Birth 8 Months Before	None	Panhysterectomy 3-27-23	4-16-23 4 hours 7-19-23 4 hours	Operable	Accidental Finding of Balignancy. Clinically Well 7-19-23.
2779	63	Carcinoma Uterus	Advanced Adeno-Carcinoma	Apparently Limited	1 Year	Goitre Persistent Thymus	None	Radical Hysterectomy	5-12-23 4 hours	Operable	Instructed to Return.
2781	34	Carcinoma Cervix	Vaginal Cuff Infiltrated with Carcinoma	Entire Pelvis	1 Year	None	None	Cautery 4-20-23. Radical Panhysterectomy 5-4-23	4-23-23 4 hours Post-Cautery Pre-Operative	Operable Borderline	No Records after Patient Left Hospital. General Condition Good when Discharged.
2832	60	Fibroid with Malignancy	Advanced Medullary Carcinoma	Apparently Limited	3 Months	None	None	Hysterectomy 5-1-23	5-11-23 200 minutes 7-11-23 200 minutes	Operable Borderline	7-11-23, Mass size of Grapefruit in Lower Abdomen. Apparently Extension of Malignancy.
2843	30	Advanced Carcinoma	Advanced Squamous Cell Carcinoma	Entire Pelvis	6 Months	Lues Latens? Wass. 2 Plus	None	D & C	5-17-23 200 minutes	Inoperable	Is to Return in Week or Two.
2871	48	Carcinoma Cervix and Uterus	None	Entire Pelvis	About 1 Year	Hemiplegia	None	None	5-29-23 4 hours 8-6-23 4 hours	Inoperable	No follow up record after 8-6-23, which reports friable tissue and tumor mass present on enterance has disappeared entirely. Some bleeding on examination.
2890	35	Carcinoma Cervix and Uterus	None	Entire Pelvis	About 2 Years	Lues CNS	None	None	6-5-23 4 hours	Inoperable	To Return for Examination in About 1 Month.
2989	34	Laceration Carcinoma Carcinoma	Advanced Squamous Cell Medullary Carcinoma	Entire Pelvis	6 Months	None	None	Cautery 7-30-23	7-11-23 200 minutes	Inoperable	To Return.
3022	27	Uterus Uterus	Squamous Cell Carcinoma	Entire Pelvis	2 Years	None?	D & C without Relief 7 Months Ago	Biopsy	7-30-23 4 hours	Inoperable	To Return.

Analysis of this chart shows that: Fourteen of nineteen cases, or 74 per cent, are inoperable. The remaining five cases, or 26 per cent, are operable. More than half of these operable cases are in reality borderline cases. Eighteen cases are living, one incurable case is dead and is worthy of a short discussion.

Case No. 2628, Mrs. B. Age 31, entered hospital Feb. 2, 1923; chief complaint, pain in lower abdomen and back, bloody discharge between menstrual periods for about one year. Has had many vomiting attacks during last year. Examination: Patient obese, anaemic; reflexes exaggerated; cervix presents a painful, friable mass which bleeds during examination; uterus and appendage not made out; discharge abundant and foul smelling. Hg. 28 per cent, reds, 2,200,000, Wass. 4 plus. Diagnosis of paresis made by Department of Dermatology and Syphology. We advised mild antileutic treatment and irrigations for the pelvic infection. Treated March 1, 1923, 200 min. Nausea increased a little following treatment for only two days, a week later the general condition improved, March 12 odor and bleeding stopped, Haemaglobin increased to 40 per cent. April 9th vomiting very severe, April 14th respirations ceased. Autopsy report:

Mrs. L. B.—Autopsy.

"Advanced scirrhous carcinoma of uterus with infiltration of all pelvic organs. Metastases to peritoneum, omentum and retroperitoneal lymph nodes. Irradiation necroses. Perforation of rectum. Syphilis (Lepto-meningitis, early paresis, gumma of medulla, active aortitis, hepatitis, pancreatitis). Chronic interstitial nephritis. Right sided hydronephrosis. Fatty cirrhosis of liver. Atrophy and passive congestion of all organs. Lipoidosis of adrenals. X-ray pigmentation of skin over pubis. Atrophy of carpal interossei. General cachexia."

Case No. 2575 returned to the hospital after the chart had been protographed. The improvement in her general condition was most astounding following the second treatment. She had gained about six pounds and complained of only a slight hemorrhage. Pelvic examination revealed a small crater formation in the apex of the vagina. This lesion bleeds when touched. There is no appreciable change in the induration.

Case No. 2871. Mrs. B., age 48. Referred for deep X-ray therapy May 29, 1923, with the diagnosis of an inoperable squamous cell carcinoma of the cervix with extension into the uterus, bladder and broad ligaments. Was given four hours of deep therapy. August 16, 1923, received two hours of deep therapy. Dose reduced 50 per cent because of the severe reaction on the skin from the first treatment. Vaginal examination at this time shows "soft tissue about the cervix contracted down or gone." Mass had disappeared. Bleeding followed the examination. Remarks: This patient is very markedly improved. She has gained weight and at the present would be considered as an operable case. Is the marked improvement in this case due to the fact that X-ray was used as the only therapeutic measure? It would be fallacy to conclude from this one brilliant result that every case of malignancy should be treated with X-ray alone. We are anxious to try irradiation alone on many of these cases so that our statistics may form the basis for some trustworthy conclusions. We should also like to give supplementary radium treatments to those cases which are now treated by irradiation alone, following the technique outlined by Schmitz of Chicago, who today is the outstanding radio-therapist in the United States on cervical and uterine malignancies.

CONCLUSIONS

A further study of the chart shows that eleven cases received only one treatment apiece, five cases two treatments, and three, three treatments.

The remaining cases on the chart are self-explanatory.

CONCLUSIONS

(1) Deep X-ray therapy, properly given, reaches malignant tissues beyond the reach of radium and surgery. When used alone or supplemented with radium treatment, malignant growths have been arrested for a period of five years or more.

(2) The percentage of four and five-year cures of cervical and uterine malignancies following deep X-ray therapy as reported by some of the early European radio-therapists places high-voltage therapy as an agent on a par with surgery. In fact, the statistics show that X-ray without surgery gives a higher percentage of cures than surgery without deep X-ray.

(3) In cases with a hopeless prognosis, deep therapy lessens pain, frequently checks excessive hemorrhage and foul discharge.

Many patients who are considered poor operable risks before treatment is instituted, improve to such an extent that the classification is frequently changed from inoperable to operable.

I wish to express my indebtedness to Dr. Reuben Petersen and his staff for the records which they placed at my disposal.

PYOGENIC GRANULOMA OF ETHMOID ULCERATING INTO ORBIT

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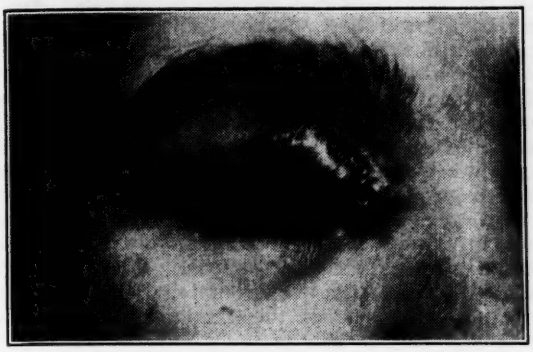
Direct ethmodial infection involving the orbit usually appears as mucocele, pyocele, or cellulitis. In this case the ethnoid cells and adjoining orbit were filled with a rather firm mass of necrotic granular material.

The patient, Margaret B., aged 8, of American parentage, came to this office in April, 1922, with a suppurating process in the right orbit of two months' duration. In the family history a great-grandmother died at 88 of throat cancer. A grandfather died at middle age from tuberculosis. The parents are living and well. She has always been a strong, healthy child, had measles, whooping cough, chicken-pox and influenza twice, an abscessed gland in the neck at 5 years, and a tonsil and adenoid operation was done soon after this. The result was good.

The present trouble followed her second attack of influenza. There were two weeks of intermittent pain, first in the right temple, then in the brow, then in the inner part of the orbit. Redness and swelling then appeared in the upper lid. This was poulticed for one week, then opened by the family physician and treated for about two months without benefit.

Examination showed both nares normal in structure and free from discharge. The right eye was closed and the upper lid red and swollen. There was a hard swollen mass in the naso-frontal region and

below this, near the inner canthus, were 3 or 4 sinuses discharging pus. There had been a tendency to heal, cicatrize and recur; a condition which is so often associated with tuberculosis and syphilis. The eyeball was normal, no diplopia and there had been no exophthalmos. Temperature, 99.4; pulse, 96; Wasserman negative. Blood count: White blood corpuscles, 7,600; red blood corpuscles, 4,000,000: Polys., 78 per cent; S. L., 18 per cent; L. L., 4 per cent.



X-ray report: Plates of head in postero-anterior position show impaired density over right ethmoid region. The bony structure in this area shows demineralization. There are no frontal sinuses present.

Diagnosis rested between a frontal or ethmoid condition with suspicion of malignancy. Tuberculosis, syphilis and actinomycosis should be considered and, in this region, meningocele or encephelocele should be thought of if there is swelling without redness.

Operation May 3, 1922. An external skin incision was made from the middle of the brow through the supraorbital nerve and periostium to a point below the anterior lacrymal crest. The periostium was elevated and the lacrymal sac dislocated from its groove. No landmark for the trochlear attachment was seen. The periostium was greatly thickened over the nasal process of the frontal bone. New bone deposit had formed, causing a protuberance. The probe could not be inserted into any frontal sinus. The os planum was about all gone, leaving a large cavity exposed to view, which was filled with necrotic granulation tissue, some pus, and broken down bony ethmoid cells. The lacrymal and nasal process of the maxillary bones were partially removed to get at the anterior cells and the entire ethmoid radically attacked, leaving the middle turbinates and nasal mucosa. A large punch opening was made into the nose in front of the middle turbinate, and an iodoform gauze drain inserted. A small drain was put in the external wound and silkworm sutures were placed through the skin and periostium.

Pathological report: Active infection with necrosis of granulation tissue. No etiological diagnosis can be made from the material.

Subsequent history and result: The wound healed in three weeks, partly by first and partly by second intention. There was great difficulty in keeping the wound open into the nose. This should have been made larger, but it does not seem necessary to remove the entire middle turbinate in these operations unless one is sure it is diseased. About two months later the patient returned with a recurrence and keloid growth in the lower part of the incision. Radium was now used over the skin wound, with a rapid disappearance of both tumor and keloid, so that after two months' treatment it looked as it does now, entirely healed. The structure of the interior of the nose remains perfectly normal; and also the eye muscle balance. Shell rimmed glasses can be worn later on to cover any remaining scar. Another X-ray, taken recently, shows still no development of the frontal sinuses and the effect of operation upon these cannot be told at present.

REPORT OF A FEW CASES WITH ENLARGED THYMUS*

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Enlarged thymus is by no means rare and frequently enters into the cause of death in various types of infections and surgical procedures. Some of our colleagues, on the other hand, think it is a very rare condition and that no general routine measure need be taken to rule out these cases. Personally, I feel that if some routine measure could be established to rule out these cases I am sure death rate in pneumonia and other severe infections would be materially reduced, especially among babies and children.

The thymus gland may take any one of three positions, namely; cervical, cervicothoracic, and thoracic. Probably the most common location is around the large vessels at the base of the heart or entirely thoracic position. When in this position it is never fixed since it will vary with each inspiration and expiration and to some extent with diastole and systole of the heart. On X-raying the normal chest we find a shadow just beneath the sterum in the upper part of the chest which is interpreted as the great vessels and mediastinal glands. Ordinarily, this is not much wider than the sterum. When this shadow is wider, such thing as bronchial gland, enlarged thymus, or some anomaly from the great vessels, must be considered. Now suppose you have a long, narrow, thick thymus which is entirely thoracic in position. It is perfectly obvious that any anterior or posterior view would not give any unusually wide shadow on the plate end, therefore, X-ray would probably be negative. Yet that case has an unusual amount of glandular material and should be considered enlarged thymus. X-ray men, no doubt, have such cases in mind for often the patient is X-rayed in lateral position. This technique, however, has not been entirely satisfactory.

As another hypothetical case, let us imagine the thymus no wider than the sterum but long and thick. A flat plate of this case, as mentioned above, would probably show a negative thymus. Now imagine an

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X-ray taken when the heart is in diastole or flattened out and the diaphragm is relaxed and down, namely at the end of expiration. It surely must be obvious to you all that there is a tendency to a lengthening out of the great vessels and mediastinal tissues. This picture would probably show a narrow thymus, in other words, negative. Should this picture, however, be caught when the heart is in systole, contracted and upright, and the diaphragm is contracted and up, corresponding to the end of inspiration, it must naturally occur to you all that the heart is pushed up and the mediastinal tissues above are pushed together, tending to broaden the shadows of the great vessels of the neck or what lies in front of them. This same effect can, of course, be produced by a distended abdomen, due to any number of causes. Furthermore, when the parts assume the latter position, the thymus is thrown nearer to the chest wall which certainly must have effect on the size of the shadow.

From this we see that an X-ray picture of the chest is not always conclusive in ruling out an enlarged thymus. I am sure after the following cases have been presented you will be convinced that the X-ray, although very valuable in making a diagnosis, is not infallible in spite of the fact that every precaution has been taken regarding points in technique referred to above.

Frequently thymic symptoms are present from birth or slightly after. The following case selected fro ma group will serve to illustrate the point.

Case No. I.—Baby F., aged 4 months, female. First seen in our Welfare Clinic June, 1922. The chief complaint at this time was that the baby choked easily. At first the mother noticed that this generally occurred while nursing, but recently the baby would wake up out of a sound sleep with a peculiar choking spell. This baby had never had any serious illness, but during the past winter has had frequent colds to the extent that it has been almost a continuous affair. Of late there has always been a tendency to develop croup with each cold. On examination we found an infant who looked perfectly healthy, perhaps slightly overweight. Neck was rather short, associated with a thick panniculus, particularly around shoulder and hip girdles. Tonsils and adenoids were moderately enlarged. Cervical and axillary glands were not unusual. Liver and spleen were not palpable. Musculature was flabby, color sallow. Baby had no temperature at this time, no evidence of a cold. Percussion of the thymus was negative. Examination otherwise negative.

The patient was immediately referred to the Pediatric Out-Patient for X-ray. X-ray in this case was unmistakably that of enlarged thymus. Following this the case was referred for X-ray therapy. The patient was treated once a week for four successive weeks. Improvement was noticed after the first treatment. After three treatments, all choking spells had disappeared. Three months after the first X-ray the patient was X-rayed again and plates were compared with the original ones. At this time X-ray showed the thymus had been very much reduced. Two months later this patient went through an attack of pneumonia without any difficulty.

Again, symptoms may never manifest themselves until after some serious infection, as illustrated in the following case.

Case 2.—D. H., aged 6 months, female. This patient was followed in the Welfare Clinic from shortly after birth until the present time. When I first saw this baby she struck me as being a thymic type, at least, her general build suggested it. In other words, she was a very short, chubby baby, with very short neck. On questioning the mother, she says this baby has never had any choking spells, attacks of cyanosis, difficult breathing or asthma, and so far has been perfectly well. For the first six months this patient was followed as a regulation feeding case and observed weekly. When six months old, the patient was brought in because of a severe cold. According to the mother, the baby had had a cold three or four weeks ago, from which she apparently recovered, when she was taken with the present cold. The mother was not alarmed about this cold, but felt that she wanted to get an early start on the treatment with hopes of shortening the attack.

Examination: She was a short, chubby, well nourished baby, apparently healthy except for an acute cold. Cheeks were flushed, probably due to temperature. Musculature was somewhat flabby. Tonsils and adenoids were very definitely enlarged, but the cervical, axillary and inguinal glands were not unusual. The throat was red. There was also a marked rhinitis associated with a temperature of 102. It was also observed on this visit that the baby had more or less difficulty in breathing at times and that a slight excess of mucous choked the baby easily. At this time the mother was requestioned for evidence of local symptoms of thymus before this attack. Results were negative. The case was discharged from the clinic with the instruction to have the doctor observe the case from day to day. On the following day the case was very much worse, temperature 103. There was definite dyspnoea, associated with a marked cough. Two or three times during the night there was a marked choking spell, associated with cyanosis. Rhinitis was very marked and baby appeared somewhat toxic, respirations were 36. Color was good, except when taken with an attack of severe coughing. The case at this time was treated from the viewpoint of a central pneumonia, although ausculatory examination was negative. On the following day she seemed to be in a very serious condition and the mother thought the baby was dying. Temperature at this time was 104.5 by rectum. The baby looked toxic and exhausted, seemed hardly to have energy enough to cough. Respirations were very rapid at times, other times would drop down to 25 per minute. More or less continually there was a tendency to choke. Ausculatory examination of lungs was negative. I watched the baby for 45 minutes. During this period the baby had three very severe definite choking spells, associated with cough and cyanosis. As time went on it seemed that this choking became almost a continuous affair and there was a slight tendency toward a stridor. After watching this baby for this period I decided that the baby did not have pneumonia, but had a severe influenza, associated with thymus enlargement. Perhaps an acute thymic condition, if that is possible. The baby was therefore brought into the University Hospital as an emergency and given an X-ray treatment immediately. The X-ray plate was not taken until the following day because of the fact that the baby entered on a holiday. This plate showed an unusually enlarged thymus. Definite improvement was

noticed eight hours after the treatment and certainly the next day the baby was very much better. The X-ray showed no evidence of pneumonia or any pathology in the chest except enlarged thymus. After four days this patient was given another treatment and was then sent home, to return every week in the Out-Patient for X-ray treatment. No other medication was given this patient.

Here we have a very good example of an enlarged thymus in an infant, which has been undoubtedly present since birth, but had never given any trouble until the baby was taken with a very severe infection. In this case it would have been useless to continue treating the infection, because the thymus was an emergency condition in this particular case. This patient remained perfectly well through summer and fall, until late in the following winter, when she came down with symptoms exactly like those given above. The mother recognized the condition and immediately brought the baby to the University Hospital for an X-ray treatment. A plate was also taken, showing a thymus that was still enlarged. The baby responded to one treatment, however, two subsequent treatments were given.

The third case I wish to present is an infant, E. S., male, aged 5 months. This patient was first seen in the Welfare Clinic two weeks after birth. He was followed as a regulation or feeding case, seen on weekly visits until the patient was several months old. On examination this child appeared perfectly healthy, showed some tendency to the thymic build previously referred to, namely, short neck, chubby, but certainly not marked. Color was good, and I would say he showed normal tone of muscle and other tissues. Adenoids and tonsils were not unusual. Cervical and axillary glands were not unusual. No history of any local symptoms of thymus was obtained. Percussion of thymus was negative. General examination otherwise negative.

When this patient was about 4½ months old, he was taken ill with what the mother thought was an ordinary cold. This cold was associated with a cough and rhinitis. As the days went by the cough became worse. Finally it was associated with a stridor, and what seemed to be a definite whoop. At this time the local physician was called and he immediately made a diagnosis of whooping cough. The case was treated as such for the next eight days, the patient getting progressively worse, stridor more marked. These coughing attacks were associated with cyanosis and a stridor that could be heard throughout the house. At this time I saw the case for the first time during the present illness. When seen, the baby had a very marked stridor, that was present all the time and became very much worse during a paroxysm of coughing. It was true that the baby would show a tendency to whoop during paroxysms. The characteristic point of difference was that this baby showed a tendency to choke from the very beginning of any coughing paroxysm and it seemed that the cough was instituted by a choke. Furthermore, the cough was not the striking feature, but the repeated choking. Examination of the chest was negative except for some transmitted noises from the tracheal region. Each inspiration was associated with marked retraction of the space just above the manubrium and of the ensiforme and the rib margin. This latter group of symptoms suggested the possibility of a foreign body, although the other group of symptoms had suggested an enlarged thymus. The case was immediately brought into the hospital as an emergency and was given an X-ray treatment at once, the X-ray plate taken immediately after showed a very large thymus. This case was then treated in the Out-Patient once a week for four weeks. Definite improvement was shown after the first treatment. The baby has been well ever since and has shown no tendency to recurrence of symptoms until winter, when the baby developed measles. At this time he showed tendency to develop a stridor. X-ray showed thymus still enlarged. After two X-ray treatments, symptoms disappeared.

To me this patient suggests an enlarged thymus that has not given any trouble until the patient had had a severe infection. This case is very much like the previous case.

Case 4.—This patient, E. J., is a girl, aged 5 years. She entered the clinic because of asthma. The family history is negative for sensitization. From the past history we gather that she has had "flu," measles and chicken pox. No other illnesses except frequent colds and attacks of bronchitis.

Present History: Asthma was first noticed four and one-half years ago when the patient was 6 months old. It comes on regardless of season, occurring about every two or three weeks, and lasting several days at a time. During these attacks the patient is unable to lie down because the dyspnoea is so marked and wheezes can be heard across the room. Whenever the patient had a cold the attacks were very much worse. Furthermore, she was very susceptible to colds and often during the winter it seemed to be a continuous affair. No history of food poisoning. Examination showed a tall, slender child, long neck, anything but a thymic build, anemic, sallow color, flabby muscles. Tonsils and adenoids removed, cervical glands slightly enlarged. Examination was otherwise negative. Percussion of thymus seemed to show slight increase in dullness to the right, nothing to the left. X-ray of the chest showed a very enlarged thymus. The patient was given X-ray therapy once a week for four successive weeks. She showed definite improvement from the first treatment. Ever since her first treatment she has been free from asthma, which is now a period of six months. Before this time she was never free for longer than two weeks at a time. After six weeks she was X-rayed again. The gland as still enlarged, but very much reduced. The patient was then given three additional treatments.

This case again shows that an enlarged thymus is not always associated with a short neck, fatty girdles, and also brings out the point that the thymus may be the cause of asthma.

The next two cases that I wish to present are very much older children, but they will serve to bring out another point in the thymolymphatic picture. This patient, H. D., female, aged 7, entered the hospital for tonsillectomy, but shortly after entrance, developed diphtheria and was transferred to Contagious. This patient had had a sore throat for several days. She was not, however, extremely sick and did not have the severe aches and pains often referred to in tonsillitis. She had never had diphtheria. On examination, patient does not look very sick, and certainly not very toxic. She is a long, thin individual, long neck. The type that you would think was anything but thymo-lymphatic. Examination of the throat reveals a very extensive diphtheritic membrane over the tonsils. The lungs are negative. Heart is negative except that it is rapid. This patient responded to all questions asked. Mind seemed to be clear. She was immediately given a very large dose of antitoxin because we felt the case was somewhat neglected, yet we didn't feel that she would die as a result of the diphtheria. We, of course, thought she had a moderately severe case, but nothing unusual. She was given 40,000 units of antitoxin into the vein and 20,000 units into the muscle. The patient acted as usual at first, having a marked chill, followed by a high temperature. The temperature began to go up about one hour after the injection and at this point

she manifested a very unusual reaction. We first noticed that she seemed to have more difficulty in breathing, became very restless, would roll and toss, finally wanted to fight. This became progressively worse, breathing associated with a dyspnoea and cyanosis. After about an hour large bubbling rales could be heard through chest, while standing along the bedside. Finally the patient lapsed into coma. Respirations were more difficult and chest seemed to fill up with fluid. Finally the patient stiffened out and died with convulsions.

To consider the cause of death in this case, the first thing that would enter your mind probably would be anaphylaxis. This patient, however, never responded to adrenalin or atropine. Furthermore, the reaction was not a sudden affair, but came on gradually and patient was two and a half hours dying. This, in my opinion, is not characteristic of an anaphylactic death. Death from anaphylaxis is rare in spite of the fact that the reaction itself may be extremely severe. Should it occur, it would be very sudden. The other point that must be thought of is death due to toxemia, but recall that this patient was not very toxic. She responded to all questions, was aware of everything that was going on about her and there was no stupor. There is probably no doubt but that she manifested more or less toxemia, but certainly nothing unusual or to a degree that we would consider dangerous in itself.

The cause of death was practically impossible to explain and, therefore Dr. Cowie demanded autopsy. Autopsy in this case revealed a very enlarged thymus but this thymus was not very broad, but was very long and thick. Those who viewed the autopsy were convinced that death was due to an enlarged thymus.

The point that I want to bring out in this case is that thymic death is not necessarily rapid or sudden. That would probably only apply to cases where thymus was an extreme condition at the time. As you recall, in looking over these cases, it took several repeated infections, several assaults on the body before the thymic symptoms manifested themselves. Therefore, we can see that this whole process could be a graded affair. This patient at hand had an enlarged thymus, which undoubtedly had stood the test of numerous assaults, but, in this case, severe protein reaction, following injection of antitoxin, was too severe a test.

The next case I wish to present was also a case of diphtheria. R. L., a boy aged 2½ years. I saw this case on what I thought was the third day of the disease. There was a definite diphtheriatic membrane covering both tonsils, but there was no extension of this membrane to other parts. The child did not look very sick and certainly did not act it. In my opinion, there was practically no evidence, at least clinically, of any marked toxemia. This patient previously had been operated upon several times for papilloma of the larynx and also had a tracheotomy performed. The general build, however, did suggest a thymo-lymphatic type, in that he was short and fat and had a short neck. He also had markedly enlarged tonsils, associated with definite enlargement of the cervical glands. Axillary and inguinal glands, however, were not unusual. Muscle tone was poor. In other words, it was flabby. Color was somewhat pasty. This case was admitted to Contagious as an ordinary, moderate case of diphtheria and was given the routine treatment of 20,000 units intravenously, 20,000 into the muscle. Forty minutes after the injection the child was taken with very difficult breathing and a choking spell, associated with cyanosis. Fifteen minims of adrenalin were given with what was thought to be slight relief. Fifteen minutes later this patient had epileptiform convulsions which involved no particular part, but the whole body. Along with these attacks were periods of choking, when breathing would become very difficult and the patient would become cyanosed. Adrenalin did seem to help clear up a couple of these attacks but, as the case was further observed, it was noted that they cleared up on their own accord, but tended to become worse as time went on. About an hour from the time the antitoxin was injected, his lungs started to fill up and there seemed to be a marked edema. Fluid could be heard in the trachea and the tracheotomy tube had to be cleaned every five minutes, finally every two or three minutes. 1/300 of atropine was given. This helped somewhat to control this marked secretion. The choking could not by explained in this case by compression of the trachea as the airation was very good. It must have been a reflex caused by the edema which was produced in the smaller bronchials. That is probably what happened, to a more or less extent, in the other cases where we have had choking.

At this time the convulsions were very much worse, so chloral was administered by rectum, but only held the convulsions for a very short period. Three and one-half hours after the administration of antitoxin, patient died in a general convulsion.

I wish to state that this case was X-rayed before operation and thymus was reported negative. This child had gone through several operations, including a tracheotomy, without any ill effect.

In considering the cause of death, the same things would have to be considered as in the previous cases. However, we are more at a loss to explain the cause of death in this case because he had not the slightest sign of toxemia. At autopsy this patient showed a very large thymus but also of the type which was long, narrow and thick. The pathologist said it was definitely enlarged. In both cases the heart showed Zenker's necrosis of the heart muscles. On the other hand, in either case there was no evidence of the heart suddenly giving out. In fact, the heart continued to beat after respiration had ceased.

CONCLUSIONS

In summing up, I wish to point out that a baby that is born with an unusually large thymus may show very mild, local thymus symptoms from the start.

Second, that these symptoms may never attract attention until after the baby has had several colds.

Third, that these babies seem to be more subject to colds or infections.

Fourth, that repeated infections in a patient who may have only a moderately enlarged thymus and in whom no history of thymic symptoms is obtained, may prove disastrous.

Fifth, that thymic death is not necessarily sudden.

Sixth, that X-ray is a very valuable asset in making a diagnosis, but is not necessarily final. Physical examination may show an enlarged thymus when the X-ray fails and vice versa.

Seventh, the choking, in at least some cases, can be explained by a reflex condition, produced by more or less edema in smaller bronchials.

THE PSYCHONEUROSES—SOME NOTES AS TO DEFINITION AND TREATMENT*

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In this day of dynamic commercialism, contagious materialism, and infatuating locomotion, the general practitioner and even the neuropsychiatrist himself can find little time for a study of the extensive and the fast increasing literature of neuropsychiatry. The armamenterium of both, however, must include a working conception of the medical entities and conditions with which they come in daily contact. For that reason, then, is your indulgence requested for a brief interval in a consideration of the psychoneuroses.

DEFINITION

When such a thorough investigator as Bleuler (1) tells us that hysteria and neurasthenia are latent schizophrenias; when such an enthusiastic psychoanalyst as Brill (2) writes, "The main character of hysteria is not the splitting of consciousness as asserted by Janet and his school, but the ability to convert the sum of strangulated emotion, either totally or partially, into that motor or sensory innervation which is more or less connected with the traumatic event"; and, when such an American authority as Schwab (3) says, "A psychoneurosis is the automatic defense of the nervous system through which, for the time being, the individual is protected from a succession of experiences which tend to weaken him and in the long run to threaten his continued existence," one is apt to question his professional compass. One may well inquire as to the true north and whether the degree of deviation is not somewhat misleading.

Kempf (4), in his Mechanistic Classification groups all the mental disease syndromes under the designation "neuroses;" Jelliffe and White (5), and Brill (6), apparently after the grouping of Freud, speak of, the "Psychoneuroses" (hysteria and compulsion neurosis) and "the actual neuroses" (neurasthenia, hypochondria, and anxiety neurosis); Schwab (7), uses the terms neurosis and psychoneurosis interchangeably and synonymously, but prefers the term neurosis. Then, too, it will be recalled that it is only in the recent past that "neurasthenia" was regarded as "the garbage can" of neuropsychiatry because most ill-defined and undiagnosed nervous and mental conditions were thrown into it. At the persent time it would appear that "neurasthenia" is getting a much needed rest and "psychoneurosis" is the common "catch-all."

Clear it is, then, that the medical profession, and the laity as well, are very liberal in their use of the term psychoneurosis. Such liberality of use, although befraught with dangers, is probably as much a help as a hindrance. In the first place, it shows an escape from slavish adherence to questionable terminology and classification. Secondly, it shows openmindedness towards the symptom-complexes under discussion; it shows scientific conservatism, and an unwillingness to pigeon-hole for future reference alone reaction-syndromes that are exciting increasing interest for their interpretation. General practitioners, internists, surgeons, pediatricians, orthopedists, endocrinologists, in fact, workers in all fields of medical, and even social endeavor find themselves confronted with growing frequency by these interesting types of reaction.

The designation "neurosis" finds its advocates among those who would emphasize the somatic factor. While "psychoneurosis" finds its staunchest supporters among those who would lay stress on the psychogenic etiology. Realizing the extreme frequency with which morbid mental attitudes and extreme affective reactions enter into these symptom-groups the applicability of "psychoneurosis" must be admitted not only as fitting but also as definitive of a definite disease group. When we reflect that the angio-neuroses and the tropho-neuroses most certainly grade into the more somatically founded conditions on one side and the more psychogenically founded conditions on the other side, there is even room to believe that both the terms "neurosis" and "psychoneurosis" are distinctly applicable to certain groups of pathological manifestations. Considerable difficulty, however, is encountered when anything like a clear presentation of these groups is attempted. This is due mainly to the fact that the psychoneuroses have their being in that intermediate, or temperate, zone that lies

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between the two polar extremities of normality on the one hand and unquestionable abnormality on the other hand. They are familiarly referred to as borderline conditions and after being thus characterized are left too frequently to the efforts of the psychologist and the social service worker. Both those able investigators are doing much to bring adjustment to the psychoneurotic sufferer, but they should not be called upon to bear so completely the burden of a medical problem. The close relationship existing between normal behavior and the first break leading to the activation of the mechanisms of the psychoneuroses is fully as important as is the relationship of the full-fledged psychoneurotic reaction to the psychoses. Hence, the physician who would do his just share in the study of these floundering humans must be fully cognizant of the range of their symptomatology. Within that range come all the variations due to the stress of somatic illness, accidents and injuries, and all the strain incident to difficult domestic, economic, and social situations.

Concreteness may be injected best into our study of the psychoneuroses by considering them, after the manner of Schwab (8), as protective and defensive reactions which spring into being when the individual is under stress or when the organism finds it more advantageous to substitute for its usual environmental reactions some other adaptive response of the nervous system. Such a definition as this is not intended to supply a rule-of-thumb formula whereby the psychoneuroses may be recognized unequivocally. But, it does give us a working basis for a more adequate study of their manifestations. At this age and stage of neuropsychiatric knowledge it is premature to expect definitions that will stand for all time. This applies especially to such a protean group as the psychoneuroses.

Before proceeding to additional formulations mention must be made of that persistent tendency to regard many of the reactions common to the psychoneuroses as voluntary phenomena wilfully induced by the patient. Volitional simulation of disease is rare. Malingering is occasionally seen in psychopathic personalities but finds no place in the psychoneuroses. The tendency to feel that the patient is intentionally and with full awareness manufacturing symptoms is truly an admission of failure on the part of the accuser to fully understand the underlying mechanism of the patient's difficulty. Since this fact is commonly agreed upon by all who have given the psychoneuroses extensive study it may be dismissed without further reference.

Whether the psychoneuroses have an organic foundation is a question that is difficult of satisfactory settlement and at the present stage of their study is of only secondary importance. The primary essential is to recognize that they involve the individual as an integrated whole, and not even as an isolated functioning human unit, but as one in close relationship with his fellowmen and subject to all the demands of organized society. That difficulties may occur at different levels in the functioning of the human organism must be clear—fully as clear as the fact that difficulty may come to any of the many parts of a motor car. But some parts are more liable than others, so with the human machine. The one matter of prime interest is always of what speed, what work, and what joy-making is the machine capable; i. e., what are its expressions of activity as a unified whole. In such an approach it is recognized that disturbances at the purely physicochemical, or physiological, level and at the psychological level all have an important bearing on the sum total representing the symptom syndrome under discussion. The role of the endocrine glands and other somatic organs, or groups of organs, and the role of the instincts and of psychic symbols must be given careful consideration and although all are undoubtedly involved, at one time or another, in whole or in part, it is not attempted to saddle onto any one of them, to the exclusion of the others, the burden of the etiology of the psychoneuroses. The fact that present scientific data appear to show that the psychoneuroses are not accompanied by any demonstrable anatomical changes in the central nervous system does not gainsay in the least the probability that the reactions of the central nervous system are influenced by anatomical changes in other organs of the human biological unit. Such reasoning also sounds a warning in regard to the too liberal use of the term "functional." Unfortunately that term has come to imply too dogmatically that there can be no accompanying structural changes. If a man cannot bend his arm at the elbow is there not something wrong with the function of the arm? Causative structural changes may or may not be present. Shall we call it a functional impairment only if no structural change can be demonstrated?

To what group of symptoms may the designation "psychoneurosis" be applied? To attempt to outline such a group in anything like a conclusive manner would be presumptious and premature. In a preceding paragraph a very general definition has been given. Let us circumscribe its application still further by acknowledging that we may with scientific propriety include under it most conditions defined in the older terminology as psychasthenia, neurasthenia, hypochondriasis, hysteria, anxiety neurosis, and traumatic neurosis. The last named is often grouped under neurasthenia

and under hysteria by prefixing the word traumatic (e. g., traumatic neurasthenia and traumatic hysteria). Naturally, certain atypical forms occur but they can usually be grouped as allied to those named. Recalling these older terms and the symptom-pictures which they represent fills the purpose of general orientation and deprives the word psychoneurosis of some of the mysticism with which it is regarded by some. The symptomatology, subjective and objective, of the psychoneuroses is that common to the old-time groups enumerated, but it may generally be typed somewhat more accurately by a careful study of the psychical mechanism underlying their individual manifestations. The mechanisms most commonly involved in the psychoneuroses are, suggestibility, mental conflict, fixation, elaboration, compensation, suppression, repression, dissociation, and regression. A full discussion of these mechanisms is beyond the scope of the present paper. They will be found fully outlined in most of the recent texts on neuropsychiatry. A further aid in the typing of the psychoneuroses may be had by remembering that in the case of the first thee named the symptomatology is very largely worked out in the field of full or partial mental awareness while in the other three and especially in the hysterias and the anxiety neuroses such is not the case—the symptomatology in those psychoneuroses finding its perpetuation in that sphere of the psyche referred to by various writers as the subconscious, or the unconscious.

When shall a group of reactions, as the first deviations from those regarded as normal for the average individual, assume the dignity of being representative of a psychoneurosis? This ponderous question unhappily does not permit of a "once-for-all" decision. A full appreciation of its significance is best obtained by realizing that it is absolutely essential that each individual case be carefully studied as to its activations or motivations. Is this individual's reactions to his environment excessive, are they giving him or others too much concern, are they defensive excuses for magnified difficulties, are his emotional responses excessive for the nature of the stimuli, is there disproportionate unwillingness to face the issues at hand, is his efficiency for work and for social contact reduced, are his rationalizations reasonable, is he adequately selective in his tactics or is he too constantly hedging behind poorly chosen ramparts, so on and so forth? A careful consideration of these reactions and any others not in harmony with usually accepted attitude and conduct—these potentialities of the psychoneuroses, must lead to the conclusion as to the presence of incipient psychoneurotic reaction. This question may be more exhaustively and more correctly attacked through detailed studies of the personality makeup of the individual. These studies are very fruitful when carried out after the manner of Hoch or of Amsden. On the basis of such studies the earliest evidence of reactions that may be evaluated as indicators of probably later psychoneurosis can be classified with considerable satisfaction.

The transition of the psychoneurosis to the psychosis is another moot question. Its solution is by no means at hand. It is an alluring field for research. To the busy man in the daily practice of professional medicine some workable criteria are necessary. These criteria must be practical in their application and acceptable to home, community, state, and nation. When may a neuropsychiatrist, or any other physician for that matter, send a psychotic patient to a hospital for the insane? With rare exceptions, only when that patient's conduct becomes intolerable to organized society, and not until then. The public is the final judge. May we call in the same judge in the case of the psychoneuroses? Yes, only in a slightly different manner. Most individuals must follow some sort of employment in order to obtain a livelihood; all engage in some form of occupation or social obligation during the active years of their life. Hence, when any individual becomes so burdened by a group of maladaptations and faulty reactions that he cannot carry on in the work or the social station in which he finds himself he becomes a casualty which our other premises permitting, may be designated as a full-fledged psychoneurosis. Groups of reactions of less sweeping character and not incapaciating the individual for the duties through which he gains his sustainance or which are encumbent upon him because of social favor or position may be classed best probably as belonging to types of personality make-up as determined by Hoch or Amsden studies.

Having thus far in our discussion called attention to a workable hypothesis of the psychoneuroses and grossly laid down their limitations we will give next some attention to their treatment.

TREATMENT

Treatment of the psychoneuroses as treatment of other disease conditions to which the human organism is liable may be either symptomatic or curative. Symptomatic treatment includes those measures that are palliative only, it does little more than to make the patient comfortable and is sufficient only to tide him over until some new situation, some new circumstance of stress, or other reprecipitating event causes a recrudescence so to speak of his still imperfect reactions. A sedative may temporarily relieve the headache symptomatic of an organic malady and give to the patient

a much needed rest, but as soon as the pharmacological action of the drug is spent the headache returns. So in the case of any hysterical aphonia. The aphonia may be removed by simple suggestion or countersuggestion, but unless the causative situation or event be discovered and be brought to the understanding of the patient in acceptable terms the aphonia will recur sooner or later.

Curative treatment of the psychoneuroses is very extensive in its scope. It may be approached from various angles. The dogmas of no single school of therapy are all-sufficient.

For the purpose of this paper the opening scene of our professional drama may well concern itself with its two principal actors and by no means is the patient always the more important of the two. Let the physician make a careful personal inventory of his qualifications, his time, and his patience. If he be in doubt as to any one of these three prerequisites, let him concern himself about their immediate acquisition. That no misunderstanding arise let it be known that the problem of the psychoneuroses is not the problem of the neuropsychiatrist alone. No one is more advantageously placed for the observation of the earliest deviation from normal behavior and for the detection of the etiological factors than is the family physician. Hence that master of the public health stage must so train his professional eye that he will be able to recognize those social pulse changes, those community situations, those domestic events, and those economic trappings that give rise to the first psychoneurotic reactions. In their successful recognition and in their prevention lies the greatest hope of effective treatment. The importance of this attitude is emphasized by Barrett (9), Chapman (10), and many others.

Next may we see the patient in the physician's office or in his examining room. For the sake of presentation let it be the first actual meeting of physician and patient. Two variables confront each other and without any intention of criticizing it must be admitted that the attitude of the physician may often be as variable as that of the patient. All the more important then is it to remember that while the physician is questioning, examining, and sizing-up his patient, the patient is also according to his own custom, and often very special way, sizing-up the physician. At that meeting are made those mental inoculations, those impressions, upon which the success or the failure of future therapy very largely depends. The dignity of a detailed anamnesis and painstaking examination is consequently fully evident. If the patient can be made to realize that now as never before his difficulty will be carefully studied, hope rises and when it triumphs over his doubts the first stage of therapy is successfully initiated. In thorough history-taking with conscientious examination, in both of which the patient's co-operation has been enlisted and fostered by appropriate supplementary remarks, we have, indeed, a therapeutic agent of primary importance. It is usually not so regarded but without it success in treatment is problematical. Without question, in cases successfully treated by psychoanalysis the success of the psychoanalyst is in no small measure due to the patient's conviction that his physician is going into his case to the nth degree and such abnormality as may exist will be detected. He is, therefore, all the more receptive of the efforts and the final statements of his analyzing physician.

With exhaustive history-taking and detailed examination comes greater ease and greater certainty in making the proper diagnosis. As in the study of other diseases so in the case of the psychoneuroses, proper differential diagnosis is exceedingly important, for upon it depends the recognition of the psychical mechanism responsible for the symptoms manifested. At the present time the patients themselves are ready for detailed inquiries and examinations, in fact, desire them and even demand them. The following experience is common to most neuropsychiatrists. A rather lengthy interview and painstaking examination was personally being granted to a patient with no very outstanding difficulties. Presently he spontaneously remarked, "Doctor, I am glad you are going into my difficulties so thoroughly, I have had many prescriptions, but no real examinations and so I still have that pain in my right side." It was found that the pain in his right side was only very secondary. What the patient really was concerned about were his seminal emissions, premature ejaculations, and his fancied loss of sexual potency. Had we not given him time to come finally to his real trouble, we too, would have missed giving the relief he was seeking.

Another important essential in the treatment of the psychoneuroses is the giving of proper attention to the patient's reactions to his environment. Just what is his industrial and his social efficiency? How is he meeting the demands of his employer, his social contacts, his relation to parents and home if single, or his marital obligations if married? Often common-sense advice by the physician in regard to the patient's difficulties in these spheres will do much to bring about his readjustment and will help to re-establish him as a more efficient social unit. With such aid in stabilizing himself, the complaints that brought him to medical attention often disappear completely. With several further visits to the physician for the purpose of weeding out faulty rationalizations and substituting for them some funda-

mental conceptions regarding the application of some of the biological principles of life the patient is often fully prepared to meet again the ordinary wear and tear of his daily routine. This point of attack has been stressed by Campbell (11).

Those cases with a record of long standing personal and environmental maladaptations, social inefficiency, and industrial invalidism, usually do not yield so readily. Very detailed study is necessary and on the basis of that study is the responsible psychical mechanism determined. Then on the determination of that mechanism depends the type of treatment suitable to the case. The treatment may include any of the general methods or the special methods known to the field of psychotherapy, or the entire domain of medical science. It is for this type of case that the general practitioner and all medical men, except the neuropsychiatrist usually do not possess the time, the patience, nor the inclination to carry out the tedious studies and the psychotherapeutic methods. For that reason it is as a rule best to direct that type of patient to the neuropsychiatrist as soon as his condition is recognized.

Only indirect reference has been made to psychoanalysis, that special method for selected cases, no mention has been made of the autognosis of William Brown, of hypnosis, and other special methods. Permit me to dismiss them with the reference that they are the instruments of specialists and are best used by them.

This brief discussion of the treatment of the psychoneuroses would be incomplete without mention of the importance that lies in each physician considering himself, regardless of his interests, an active member of that still largely unorganized endeavor known as the mental hygiene movement. Mental prophylaxis is truly as important as the prophylaxis of epidemiology.

In conclusion, the psychoneuroses represent clinical entities that permit of definition and circumscription fully as well as most of the organic diseases. They permit of rational therapy and the results obtained are as significant and encouraging as results obtained in other domains of medicine.

DISCUSSION

DR. H. A. REYE, Detroit: We have listened to a very able and a very excellent presentation of a very difficult subject. To be able to give a survey of the psychonsuroses in this brief space of time is an exceedingly difficult thing. Dr. Heldt has done it very well, indeed.

His definition that the psychoneuroses are protective and defensive mechanisms in a large measure is absolutely correct.

A question that has always been of interest to me is, why is it that these individuals do take the defensive reaction? What are the forces that compel them to do so?

I do feel that in the most recent past there has been a great tendency to overlook the factor of heredity. I feel very strongly that these individuals are hereditarily burdened and that they are not so strong as the average and that therefore they find it more difficult to fit into this extremely complex society as it is now organized. Besides that, I feel that a good many come into the ways psychologically by environment. Children are placed in the care of a psychoneurotic mother and see her actions and cannot help but copy these examples. There we have one of the most potent factors for handing down the psychopathic types of reaction. Children should be guarded against the influence of the father or mother or aunts who are patients at the present time in physicians' hands.

In a general sense, it may be said that the psychoneurotic is inadequate, however, he tries to retain himself within the limits of social approval. Being unable to adjust himself adequately produces a fear or anxiety that he may lose social approval. It is, after all, a measure to combat this anxiety, to get rid of this anxiety, to adjust himself in some way, that is fairly successful. Hysteria, I dare say, is the most successful in that way.

The psychasthenic or inside neurosis is not so successful. The place of conflict is quite near the surface, so that these people are extremely unhappy. They are extremely troubled and very much in need of help. The hysteric has solved his or her problem to their own satisfaction. Many of them are by no means willing to be saved from their situation, for they gain by the situation. Such is by no means true of the psychasthenic, who are among the worst cases we have. They should be given relief. It is extremely difficult at times to give them relief.

The hysteric, I do feel, is quite satisfied, generally speaking. In them, when they have worked out a mechanism of this nature, they utilize it to obtain advantages. They use their types of reaction in order to make their life more satisfactory. Many of them do this consciously. It is by no means uncommon to detect them in malingering. I feel that the hysteric eventually becomes fairly conscious of how he can use this method.

I will never forget one of my earliest cases. The husband came rushing to me and said that his wife was having fits. He was very much excited. Sure enough, she was having wonderful fits. I saw that she was peeking out of the corner of her eye watching me. I said to him, "Get me some aromatic spirits of ammonia." When the husband was out of the room I said, "Now, come out of it. What are you doing this for?" She said, "My husband is running with another woman and that is the only way I can keep him home."

DR. A. L. JACOBY, Detroit: I feel that it is very little I can add to the able presentation by Dr. Heldt and Dr. Reye. However, I might mention the social significance of the psychoneuroses which has already been touched upon by both doctors.

During the recent war we were all impressed by the tremendous disabilities occasioned by the so-called shell-shock. It was in many cases a defense against impending danger on the part of the individual soldier. Shell-shock is not peculiar to war. It occurs in family life and in industrial life.

The problem, then, of disability by reason of psychoneurosis is probably one of the largest single factors with which the physician has to deal. The physician's duty to the community is the preserving of mental function. It is of small importance to society, whether the wage earner of the family is disabled by reason of pneumonia, a broken leg, a brain tumor or a functional nervous disorder. He is just as completely disabled. The family must be just as completely supported by some other agency.

Therefore, these factors, such as psychoneuroses,

assume tremendous proportions from the social viewpoint.

The association of malingering and psychoneuroses often occur strikingly in the same individual. This has been observed by some who have had to do with malingerers.

Dr. Wilson, five years ago, gave a definition of hysteria which gave rise to some criticism being thrown at him. He defined a hysteric as an individual who unconsciously avoided his responsibility, while a criminal was an individual who consciously avoided them. They were both equally damning to the community. He was accused, by such definition, of placing them in the classification with crooks, which was not what he intended.

I have seen an individual who openly malingered, even eating soap or secretly heating a thermometer for the purpose of getting into a hospital and escaping part of his prison sentence. He then developed an hysteric paralysis of one arm. It is not correct to refer to his hysteric paralysis as malingering, nor right to refer to the malingering as a psychoneurosis. Keep an eye on the individual who both consciously and subconsciously wishes to avoid his responsibility. He tries one method, and when it fails, another group is utilized. I have seen it interchangeably time and time again in the same individual.

There is such a thing as too great propagation of the knowledge and association between malingering and psychoneurosis in that it will produce an opposing reaction on the part of the public. It will make them feel sorry for the psychoneurotic and no longer regard him as sick. We, as members of the profession, need not feel sorry. It seems to me to depend largely upon the ability of the physician to maintain a neutral emotional reaction toward the patient. He should not sympathize too greatly and at the same time should not maintain a harsh or resentful attitude.

We allow the patient to know that the doctor regards him as evading his duty. We at the same time impress upon the individual that his duty is to support the family, if a male. If a female, we impress upon her that it is her duty to take care of the home. And we do not let them lose sight of that for a moment during the handling of the case.

DR. FRANK R. STARKEY, Detroit: After these presentations we have already listened to, the subject is pretty thoroughly exhausted. I agree, of course, with all that has been said. I would like, however, to emphasize two points.

One is the importance of prophylaxis. I think there is no nervous functional disease, at least, that we have to handle, in which prophylaxis plays a more important part than in this particular group of which we are speaking.

The handling of the child from the moment it is born, or possibly even from the time before it is born, is of the utmost importance. Many children have a psychoneurotic makeup thrust upon them by the handling by their parents.

I believe that we, as neurologists or internists, should make it a point to impress upon parents and those who have to do with the handling of children in their early years that they are paving the way for future trouble by permitting tantrums and pampering to the whims and wants of these youngsters.

It has been said by some that psychoneurotics are born and not made. I agree with that to a considerable extent. I think that psychoneurotics are fundamentally deficient in their emotional stability. But I think also that we are all potentially psychoneurotics. I believe that we can all, under given stress, develop some, at least, of the chain of symptoms that go to make this up.

We have heard this paper by Dr. Sladen upon hypertension of the circulatory apparatus. This is closely associated with hypertension of the nervous system. These individuals are frequently hypertensive. If we can teach these people to relax it would do much to overcome their condition. If we can remove fear of their malady, their condition is pretty nearly cured. But the treatment of the condition in early childhood, I believe, before it is well established, is of the utmost importance.

DR. THOMAS J. HELDT (Closing): I am grateful to the doctors for their able discussion. It has brought out many points that I was unable to emphasize adequately in the time that we had this morning for the consideration of the psychoneuroses.

As Dr. Reye stated, I think we may well grant that a psychoneurosis has probably many of its potentialities founded in heredity and, furthermore, from that point of origin the developing individual is also too often blamed for what an environment imposes upon him.

When malingering is carried to the extent that it is no longer acceptable to society, the question of penalizing the guilty individual becomes a definite issue. Yet we should take an equal amount of interest in the factors that have given rise to the reaction that has brought about that conduct for which we are voicing our censure. From the simple habit of smoking we may possibly draw an illustration. Suppose we take ten rather inveterate smokers, and deprive them of their tobacco. Each of them, as you know, is going to experience a difficult time in adjusting himself to the deprivation in question. Not only that, but from our experience we know that not a few of them will surreptiously return to the habit when not under the closest observation, and will even construe too liberally, not to say purposefully misinterpret, the directions given them. So with malingering, we are often too ready to class overt conduct as malingering when in its final analysis it is something other than such type of response. The most important thing is to get at the mechanism that underlies the abnormal behavior which we are endeavoring to correct. With a thorough understanding of that mechanism we will often be able to unravel the difficulty at hand, and obtain quite encouraging results.

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Report Malpractice Threats Immediately to Doctor F. B. Tibbals, 1212 Kresge Building, Detroit, Mich.

Editorials

THE JOURNAL

A member, not intimately connected with the work of editing and issuing The Journal, cannot be expected to be familiar with the many details that are involved. In the absence of such information and in the quest to secure that which will be of greatest personal value and interest to oneself it is not inconsistent and unreasonable that in the enthusiasm of such quest an individual would overlook and fail to consider the difficulties of the Publication Committee and the Editor and, possibly with little thought, give utterance to criticisms and expressions of disapproval, even condemnation. That is to be expected particularly when the individual is part owner of the publication. It is also to be expected that the individual's personal opinion and appraisal will continue unchanged unless he receives definite enlightenment. Therefor to eliminate wrong conclusions, to impart facts and to present some of the more important features of editorial duties and policies we purpose in this editorial to discuss some of the more important factors that govern our editorial labor. It is sincerely desired that each member will give careful consideration to the facts that are imparted.

In the annual report of the Editor there will be found the following extract. We desire to repeat it as a preface to that which is to follow:

Our editorial policy is formulated by the Publication Committee. Our editorials and editorial comments are governed by that policy. Fundamentally we assume that the foremost objects that are sought to be obtained by the Journal are:

1. A medium for publication of the scientific papers, scientific studies and clinical observations of our members.
2. Publication of Organizational Activity.
3. Publication of news items and events.
4. Editorials imparting information as to scientific progress, discussion of medical economics and advancements of facts and information in order to formulate and mould sound policies and united expressions of desirable attitudes upon the medical topics of the day.
5. To impart the Society's stand and relationship as regards the profession's contact and concern with public questions.

With this platform ever in view, we have sought to cause the Journal to reflect the Society and not an individual. We have, when circumstances compelled, opposed the individual, or minority group, for the sole purpose of conserving the rights and interests of the majority. I am of the opniion that such must ever be the editorial policy of The Journal—the interests, the welfare of the whole and not of the minor or individual part.

During the past year we were specifically directed to oppose a certain legislative proposal. In doing so, a small group of members took offense and sought to discredit your Editor because he complied with the explicit instructions of the Council. This caused us no personal concern. It is commented upon for the purpose of pointing out that in the endeavor to attain that which events and experience indicates to be the best for the whole Society, we will invariably, no matter what the question may be, antagonize and oppose the personal desires and aspirations of a few. It is ever thus.

The Journal editorially cannot assume a straddling or neutral position upon medical problems and practices. It must assume a definite position and stand. That position must represent the mature, deliberate judgment of the majority of our members. Having assumed that position, it is consistent and essential that it be fully and fearlessly defended. To ever be neutral, to assume an evasive policy, to cowardly refrain from exposing pernicious and individual or collective, selfish activity that affects our Society, abrogates our rights, robs us of our independence, or discredits us before the public, would be to issue a Journal that would be peurile and but of small value or interest. Our members have a right to expect and receive authoritative information upon all medical, economic problems, and likewise they are entitled to detailed facts in regard to all proposed or established medical activities.

In the pursuit of such a policy we will at times, and regretfully, tread upon the toes of individuals. Unpleasant as such a necessity may be, can we do otherwise? We hasten to add that such necessities amongst ourselves would be few and far between, did propo-

nents of movements come forth, openly and frankly, and give expression to a willingness to discuss their proposals and plans with our organization, the Council and our officers and to seek and receive mutual co-operation and advice. Such must be recognized as a desirable attitude and one that should be sought for with avidity.

Personally, as Editor, I have never caused the assumption of a definite position upon any subject without first seeking the advice and instructions of the Publication Committee.

It is hoped that this detailed explanation will be received, as intended—not as a statement of justification, but rather as information for your guidance.

One cannot, unless daily familiar with the numerous details involved, appreciate the work entailed in editorial direction.

Each issue is of limited space. We seek to publish submitted articles as promptly as possible. We are ever confronted with an increasing number of articles awaiting publication and delays, vexious though they are to authors, cannot be avoided. If it is your judgment, and we request expression thereon, we believe that the Journal is entitled to expend all of its earnings in bringing about more prompt publication of these articles by the issuance of a large publication each month. Shall we continue to cause the Journal to liquidate the deficits of the Society? Your instruction is requested.

That is our general policy. It is not the policy of the Editor alone, nor of the Publication Committee, but the policy of the Society that has been approved by the Council and which governs and controls the Publication Committee and the Editor.

Under that policy, what is the first difficulty encountered. It is ever our greatest problem to please all our members in the matter of original articles. Unfortunately we are not all equally interested in the same subjects or the same specialty. We must publish a variety of original articles so that each group may find in each issue some one or more articles that are of interest to them. At times only one and sometimes none are of interest to you personally—but please remember that there are some eight or ten special groups of readers to serve and our publication is not large enough, nor have we sufficient funds to meet the interests or desires of all these groups in one issue.

Original articles are derived from the papers that are read at our annual meeting and from voluntary contributors. Neither we, nor the Publication Committee, can write them. These two sources comprise our supply, and determine their nature. If there are too many surgical papers, too many special papers or too many papers along one line with an absence of those covering another field it is not due to any editorial inclination or preference, but rather because representatives of such special specialties participate in our programs and so submit more articles for publication. If you want more clinical case reports, more everyday experiences, more articles on therapy, less of the scientific and research type and more of the practical, there is only one way to secure them and that is for our members—you—to write them, read them before sections or county societies and send them in. We have repeatedly requested, and again request, such articles and when received we give the assurance that we will cause them to be published in due proportion to our other articles.

While on this subject of original articles it is well at this time to state that the type of article desired is one that imparts something definite and is instructive. To send in for publication that which is composed chiefly of text-book quotations or quotations of articles already published and imparts nothing but these quotations is to presume on our limited space. What is desired is articles giving personal experiences, observations, studies, results and conclusions. We can read the rest in text-books. As a rule short, conclusive and definite articles that are void of verboseness and flowery style and which enlighten and aid the reader is the type of article that is most desired and interests the greater number of readers.

Original articles are published under the following rules: First—Preference is given to articles that are read before sections during our annual meeting; Second—Submitted articles are published as promptly as possible and the promptness of their appearance is governed by the purpose to cause each issue to contain articles that are of interest to the largest number of special groups of practitioners. For illustration: If in one issue we have allotted an article on medicine, surgery, gynecology, and pediatrics and two submitted articles are received one of which is on a surgical topic and the other on the eye, the article on the eye will have preference for that specialty is not covered in the original articles of that issue and surgery is. Likewise if space is available and it is February and we have before us two submitted articles, one on the Diarrhoea of Infants and the other on Bronchial Pneumonia In Infants, we will give seasonal preference to the article on Bronchial Pneumonia and delay publication of the article on Diarrhoea until the summer months. These are the only rules that govern the publication of original articles. It is true we may in the course of a year publish a greater total of surgical or specialty articles, but that is beyond the control of the Publication Committee or of The Editor, for they cannot be held accountable because surgeons or others are the more prolific writers. The main thought is to supply, in so far as possible, the wants and desires of all just as the contributed copy is submitted.

The editorial and editorial comments eminate from the Editor and at times from contributors. When a member sends in an edi-

torial, and they are always welcome to do so, in fact, they are solicited, the contributor's name is always appended. The extract from the annual report of the Editor imparts the policy that governs the editorial pages. It may be well to repeat that no definite editorial stand or criticism is ever taken until it has been taken up with and discussed by the members of the Publication Committee and careful consideration is given to what is clearly the opinion and sentiment of the majority of our members. Here again it is pointed out that the editorial policy is not the personal opinion, views or desires of the Publication Committee or the Editor. Our editorial attitude is the attitude and reflects the sentiments and opinions of the majority of our members. Let that be ever remembered. If you find that the editorials conflict with your personal opinions and your personal interests, please remember that that is so because the majority of our members are not in accord with your personal views and that it is not a personal attack upon you, or perhaps your group, but rather an expression, attitude, desire or command of the majority opinion of our members. We are very desirous that this shall be clear to every member for only a few are aware that this rule governs the editorial page.

News Notes imparting the activities of our members are desired and are repeatedly solicited. This, as time passes, form a valuable historical record of the profession of Michigan. Unfortunately the editor cannot keep conversant with the doings in every part of the state or with the activities of all our members. We are therefore dependent upon our members and county officers to send in these items for publication. Please do. We cannot depend upon a Newspaper Clipping Bureau because so many non-medical men are given the title of "Dr." in the public press. We did use a clipping bureau once but soon found that we were publishing news items about "Dr." Chiros and Osteos and similar pseudoists and promptly discontinued relying upon newspaper clippings. So please send in the news items from your vicinity. And if Dr. John Doe's name appears more frequently in our news columns than does yours do not hastily conclude that we are a personal friend of Dr. John Doe and are boosting him or showing favoritism. That is not the case. The facts are that John Doe is sending news items and you are not and so your name does not appear. We cannot manufacture personal items to keep you abreast of Dr. John Doe.

Much to our regret, death invades our ranks. We are extremely desirous of recording all deaths of doctors whether they are members or not. So here too, we repeat, when death terminates a fellow practitioner's life, please aid us in recording it by sending in an obituary notice.

Now just a word about our advertisers. If you read the financial report, and we trust you did, you will have learned that we are able to print and issue the Journal at the nominal price that is charged to you because of the revenue derived from our advertising pages. This advertising revenue is not a contribution. It is an investment by the advertisers and they will continue that investment and make the Journal possible just so long as they receive a reasonable return upon their investment. The amount of that return is determined by the patronage that you, individual member, give to our advertisers. They merit your business and you are in a measure bound to give them preference when making purchases or in placing orders. If you withold that patronage, if the advertiser does not receive a fair return upon his investment then he will discontinue his advertisement in the Journal and eventually you are deprived of that revenue. So we urge, that to continue our present publication, to make it possible to issue a larger Journal that will meet the desires of all our members, to minimize the amount of your annual subscription and to help maintain our advertising revenue—patronize our advertisers and give them preference.

We trust that we have given you an insight to the Journal that will enable you to perceive that which your Publication Committee and Editor is seeking to attain for your benefit and pleasure. We have touched upon but a few generalities. We have said nothing about a host of minor details that require supervision and we have omitted to direct attention to manuscript preparation, typing, spelling, abbreviations. Neither have we commented upon the mechanical and printing problems that are causes of monthly controversies with the printer and his "devils." These griefs are part of the established routine and are only of remote interest though they do call for a very appreciable amount of time from the editor. We conclude with the definite statement that the Publication Committee and the Editor are endeavoring to serve you and to meet your desires. At all times do we welcome your suggestions, your advice and your constructive criticism, for then, in joint co-operation, will it be possible to attain the desired end.

MEDICAL BROKERAGE

At the dinner meeting of the Council in January there was a general discussion of medical problems and practices. We were very much impressed by the assertion made by one distinguished ex-president charging that there was far too large a tendency to-

ward medical brokerage. As illustration, he cited a case of one patient who had been referred from doctor to doctor for a host of examinations and opinions without definite benefit or a diagnosis. This individual came finally to the speaker asking where she could find a doctor who would again refer her back to her family physician. He also cited an incident where a husband stated to his wife: "We have employed Dr. Blank for fifteen years and all he has ever done for us is to refer us to another doctor or specialist. Every physician could undoubtedly recite similar incidents. Lay individuals would provide us with a multitude of similar experiences.

The query is naturally pertinent: Is this medical brokerage practice right, is it just to the patient and doctor? It is recognized that expert opinions are desired and special examinations required to make a diagnosis. However, in securing them should the policy not be one of consultation and not reference? Should not the family doctor, the original attendant, maintain and continue constant contact and supervision of the case? Would not such personal supervision by the family doctor provide better for the patient's need and eradicate the medical brokerage tendency? There are, we recognize, arguments on both sides but in the end how are we ever going to put a stop to this brokerage practice and limit its evils if we fail to ignore the family doctor. Certainly we do not desire "Medical Brokers or Jobbers." We invite discussion of the problem.

JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

In the correspondence column of this issue will be found a communication that has been sent by the Chairman of the Council to the officers of County Societies. We draw special attention to that communication. The call comes for more speakers. Each County Society is required to nominate additional members for the corps of speakers. It is a pressing need that must be met for the Committee is receiving a large number of requests from lay organizations and cannot be neglected. We must cause this movement to go over big for it is the professions golden opportunity. We repeat, send in nominations promptly and add your support to the work of the Committee.

QUACK DOCTORS

We have always felt that reputable physicians should value and utilize their medical society membership in every possible way. Such membership is not an idle affiliation. Over and above everything else it is an endorsement of your reputation and professional standing. It is right and proper that the people of your community should be aware of the fact that you are in good standing in your medical society.

The Muskegon Chronicle recently featured this point in the following editorial, which furnishes you much for thought:

EXPOSING QUACK DOCTORS

(From the Muskegon Chronicle)

There is one form of advertising in which reputable physicians and surgeons could indulge in accordance with the strictest interpretation of their ethical code. It would protect the public against imposters and would indicate which practitioners in every city, town and county or locality are in good standing in the fraternity and therefore are professionally capable and trustworthy.

The public is not discriminating. Those who are ill and are seemingly not benefited by treatment generally drift into the offices of the quacks, whose appeals to the imagination are convincing and even inspiring. The membership roll of the city, county or district medical society should be published regularly or periodically in the press. Every member of the society should print on his card, his prescription blank and his letter head a note stating that he is a member of the society and he should display a printed membership, placard, framed, in his office.

It would be legitimate and beneficial advertising to advertise the medical society and thus designate the quacks and educate the people to the fact that they cannot patronize any but members of the medical society except at their own risk. Quacks would soon be put out of business with clever advertising of this kind.

We agree with this editorial writer. When you pay your dues, each year, a membership certificate is sent you. Frame it. Place it in a conspicuous place in your office. We quite agree also with the desirability of recording your medical affiliation on your prescription blanks. Would it not be well to advertise our medical society membership in this manner? Let us make the experiment.

DUES—IMPORTANT NOTICE

Our members' special attention is directed to a communication that will be found in our correspondence column. Secretaries of County Societies will also please note the need that this communication demands prompt action. Michigan does not wish to lose any of its A. M. A. delegates. So please pay your dues promptly and give your Secretary time to get them in before April 1st.

REGIONAL POST-GRADUATE CLINICS

In his annual report, the secretary advanced recommendations for Regional Post-Graduate Clinics. See February Journal containing minutes of the Council meeting. The Council approved the principles and purposes of the plan and recommended that the President ap-

point a special committee to outline and institute the work.

In compliance with this recommendation President Connor has appointed the following committee:

W. J. Wilson, Detroit, chairman.
R. J. Hutchinson, Grand Rapids.
L. M. Warfield, Ann Arbor.
F. M. Harkin, Marqquette.
R. M. McKean, Detroit.

SECTION OFFICERS

Please note this announcement:

The Scientific Committee of the State Society is composed of the President and Secretary of the State Society and the Chairman and Secretary of each section and is charged with the preparation of the scientific program of the sections for our Annual Meeting that is to be held in Mt. Clemens in September.

In order that there may be a close relationship between the several sections and that a valuable program be created for our Annual Meeting, it is directed by President Connor that a meeting of the Scientific Committee be held in Kalamazoo at 10.00 a. m. on April 16th. You are urged to be present at this meeting.

The date of April 16th and the place at Kalamazoo have been selected for the reason that on that day, at noon, there will be a meeting of the Joint Committee on Public Health Education and that afternoon there will be a conference of all the Secretaries of the County Societies called by the Council.

Please mark this date on your calendar and make it a point to be present.

COUNTY SECRETARIES

A conference of all County Secretaries will be held at noon, April 16th, in Kalamazoo. The Joint Committee on Public Health Education will meet with you at luncheon. In the afternoon there will be a general discussion of organizational work. The details of the program are being prepared by a committee of the council and will be announced in our next issue. We want you to note and reserve the date.

DIPHTHERIA-ANTITOXIN—A CORRECTION

The quoted correspondence is self-explanatory. We are glad to make the correction and trust that this added publicity will serve to increase the efforts to reduce the diphtheria deaths in Michigan:

Editor of the Journal of the Michigan State Medical Society:

In reading the editorial on Diphtheria in the February issue of the Journal I notice a serious mistake, to which I feel it my duty to call your attention. I refer to the dosage of antitoxin. You have listed the intravenous dose at from two to six times the size of the intramuscular dose. This is undoubtedly a stenographic or printer's error, but it might prove serious should an uninformed physician follow from figures.

I might also add that the Schick test is, according to Park, no longer used preliminary to toxin-antitoxin immunization.

I feel that for the sake of the children these errors should be corrected in a subsequent issue of the Journal.

Very truly yours,
J. D. Brook.

Dear Dr. Brook:

Thank you for your letter of the fourth. I am still in the dark in regard to a dosage of antitoxin, especially the intravenous. The table given in that editorial was taken from a bulletin of the New York State Board of Health and the figures given were as imparted in that bulletin and Doctor W. H. Park is quoted as the authority for those figures. At the time I read it I thought these doses were somewhat large, but with such an authority I did not question it, and also coming from the New York Commission of Health, I concluded that it must be correct. I referred to the figures again and find that they are published as given in that bulletin.

I am going to take the liberty of referring the editorial and your letter to Doctor Slemons and ask him for a communication upon the matter. If these figures I have quoted are wrong, I shall then be glad to make correction in the next issue of the Journal, together with your and Doctor Slemon's letter in connection with the editorial.

As far as the Shick test is concerned, I recognize that it has been considered as impractical and that the toxin-antitoxin immunibation is given regardless of the Shick test. I mention it merely because in some quarters some men still associate the two measures.

The purpose of the editorial is to induce doctors to be alert to these sore throats and to give full dosage of antitoxin. You know there are many who still rely upon 500 units and think that they have given a large dose when they have administered 2,000 units.

I am glad, however, to have you raise this question because we want to be right as many times as possible and I hope that in the future we may have the benefit of your advice in connection with similar editorial comments.

Yours very truly,
F. C Warnshuis.

Dear Dr. Slemons:

I am referring to your attention the enclosed letter from Dr. Brook and also my reply.

Will you please refer to the editorial in the February Journal and then advise me, returning the correspondence?

Thanking you, I am

Yours very truly,
F. C. Warnshuis,
Secretary-Editor.

Editor of the Journal of the Michigan State Medical Society.

Inclosed please find what Dr. Park recommended in 1921 in regard to the amount of antitoxin to be used in the treatment of a case of diphtheria and how the same should be used.

The article in the Journal regarding the dosage is wrong due to the fact that in quoting what Dr. Park has said, someone forgot to state that when used intravenously the smaller amounts recommended should be used. You can readily understand that this makes the table as published

in the last Journal read entirely different than it appeared.

I think it wise for you to advise the profession if anti-toxin is given intravenously that it should be highly potent, show no turbidity, warmed to body temperature, and given very slowly. Dr. Park, if I remember correctly, recommends that one minute should be allowed for the injection of each cubic contimeter. I believe also that the best practice today advises that anti-toxin should never be given in less than 10,000 unit doses.

If I can be of any other assistance to you, kindly let me know.

Reasons for my delay in answering are it took me several days to get a copy of the Journal, mine having been mislaid and also to the fact that I have been away from the city.

Very truly,
C. C. Slemons, M. D.

AMOUNT OF ANTITOXIN IN THE TREATMENT OF A CASE

	Mild	Early Mod.	Late Mod. and Early Severe	Severe and Malg't
	Units	Units	Units	Units
Infants 10-30 lbs, under 2 years	2,000 to 3,000	3,000 to 5,000	5,000 to 10,000	7,500 to 10,000
Children, 30-90 lbs., under 15 years	3,000 to 4,000	4,000 to 10,000	10,000 to 15,000	20,000 to 20,000
Adults, 90 lbs and over	3,000 to 5,000	10,000 to 10,000	15,000 to 20,000	20,000 to 50,000

The above dosage is to be given intramuscularly.

	Late Mod. & Early Sev.	Severe and Malg't
Infants, 10-30 lbs under 2 years	5,000	7,500
Children, 30-90 lbs under 15 years	10,000	10,000
Adults, 90 lbs. and over	10,000	10,000

The above dosage to be given intravenously.

Editorial Comments

Well, now we have a Mah Jongg dematitis to worry about. A number of cases have been reported. In reality, it is a dermatitis venata caused by the lacquer on the boxes of Mah Jongg sets. The Chinese and Japanese employ as a varnish in their lacquer work, an extract of Rhus Vernix. Shortly after the infection exposure there is a burning and pruritis with eythema, and later, swelling, edema, vesicles and bullae. The treatment is the same as for poison ivy.

One of the large insurance companies that carries some fifteen million industrial policies, presents some pertinent statistical figures as to deaths among this class of patients that represents one-seventh of our population. It's annual death rate is 8.9 per 1,000. Of special note is the decline of diphtheria of 15.2 per 100,000 in comparison to 30.8 in 1922. Diseases incidental to pregnancy reveals a death rate of 17.9 per 100,000. Measles, influenza, pneumonia, heart disease and whooping cough had an increased death rate, while tuberculosis and typhoid fever was decreased.

Dr. Ray Lyman Wilbur, President of the A. M. A., recently addressed several medical meetings in various parts of the country. Dr. Wilbur is a tall, gaunt, Lincolnesque type of a man with a wonderful personality and an impressing earnestness of purpose. He commands respect and admiration. He is clear in his expression, keen in perceptive and expertly sound in his conclusions. We quote a few of his comments and expressions:

"Our greatest error has been in not carrying the public along. Our progress has been too rapid for understanding by the public. Sometimes our progress is too rapid for assimilation by ourselves."

"We must sell ourselves and our knowledge to our public."

"We are well organized. We have demanded better education of our profession. We must work out a plan to offer what we know to the public. We must assume the offensive. We have been defensive too long."

"Think of all the events that have gone around and about us during our own generation, any one of which would have characterized one generation in medical history. It is better to practice medicine one year right than forty years wrong."

"The social responsibilities of the profession are enormous. Are we going to fit in or be fitted? We must face, meet, and control these situations. The social aspects of medicine are inevitable,"

"Bringing in the laboratory has crowded out the clinical senses. We must understand how to get our hands upon the patient. The personal touch is essential. We must put back into medicine the personal element. The distant approach through the laboratory is ruinous to the confidential relationship of patient and physician."

"The dramatic discoveries of the laboratory have numbed the talents of the five senses."

"A well trained doctor should arrive at a diagnosis in a bathing suit. The tendency is to come in a diver's suit with aparatus, compressed air and much assistance."

"We need to smash the present curriculum and revamp it to bring it up to the medical requirements of modern knowledge. Pre-medical courses should be reconstructed. Present courses are in some ways ridiculous. We now take twenty-five years of the life of the best young men in the country preparing them to become physicians. We standardize the work so that when they have finished they are all alike. We prescribe that they shall have so many hours of this and so many hours of that. What we need is to make courses more elastic and elective, so that men who are philosophers, chemists and psychologists, may enter the profession and bring with them their different viewpoints. The science of medicine is changing, and we cannot dam the stream at one point and prescribe certain things."

In these quotations there is contained much for thought and considerate action. Ponder over them.

April 16th, Kalamazoo—This is an important date on which the following meetings well be held:

Ten a. m., meeting of the Scientific Committee, to arrange for the Annual Meeting, section programs; 12 m., meeting of Joint Committee on Public Health Education with the County Secretaries; 2 p. m., conference of County Secretaries with the Council.

The doctors, dentists and druggists of Lansing had a Leap Year party on February 12th. Splendid idea and one that might well be followed in other communities. All three professions have mutual interests. All three have some common

problems. Individually each profession may achieve certain ends but unitedly and in fraternity their welfare and interests will be greater if they co-mingle in pleasure and professional activity. We are glad it is Leap Year for possibly the women can put it over better than us busy men. We suggest that you let them try it.

The coming session of the American Medical Association that is to be held in Chicago the week of June 9th, promises to record the largest registration ever attained. A scientific program of exceptional interest and value is assured. Michigan should be well represented at this annual meeting. The main question now is to secure hotel accommodations. It is none to early to write for hotel reservations. We urge that you attend to this during the fore part of this month in order that you may not be disappointed. Incidentally, but of importance, is the fact that if you are not a fellow you should send in your application at this time. Fellowship in the national association is an obligation that you owe. Write to Dr. Olin West, Secretary, 535 N. Dearborn St., Chicago, and secure an application blank. There are at least 500 Michigan Doctors who should be Fellows of the A. M. A. Affiliate now.

"The incompetent or unprincipled physician, licensed to practice medicine by too complaisant state, is the greatest menace to scientific medicine —as great a menace as all the cultists put together."—Fishbein.

The following from the Red Book Magazine for January merits reflection:

At luncheon I happened to mention that I needed a new bag.

"Where do you intend to buy it?" my companion asked. I gave the name of a well-known Fifth Avenue shop.

"That's absurd!" he exclaimed. "Nobody with any sense pays full price for things in this town. Tell you what: I've got a friend in the business. We'll just jump into a taxi and run down to his place. He'll fix you up right."

The taxi carried us down to the wholesale district at a cost of a dollar and forty cents.

We entered a shabby building with dirty windows, and asked for the "friend," who happened to be out of town. However, another man came forward and voluntered to fix us up right.

For about an hour we rummaged through that dusty loft, examining bags, none of which really suited me. But I felt under obligation and eventually purchased one, waited while it was sent across the street to be marked, and then carried it uptown—all of which consumed the best part of the afternoon.

It was four o'clock when we dismissed the second taxi. I had paid out three dollars, wasted three hours and bought a bag which I didn't want. But I had proved my shrewdness. Through a friend in the business I had bought cheap.

Six months later, when that second-rate article began to show its lack of real stuff, I chucked it into the ash can, and went over to the Fifth Avenue shop and bought the bag I had wanted in the first place. I paid a high price, which will be a low price in the end, as I expect to carry the bag the rest of my life.

In buying a piece of jewelry I had an interesting experience. After asking prices in various second-rate shops, I summoned courage to step into a store whose name was famous around the world.

To my surprise, the price was actually lower—and there was no suspicion about the quality.

Similarly, in dealing with doctors, I have learned that the best ones charge less in proportion to what they give—for they speak with authority.

All this sounds elementary, but the instinct to beat the game is strong in all of us. It tickles our self-esteem to think that we have got something cheap.

My own conviction is that the only way to get things cheap is to pay the price of the highest quality—that, generally speaking, those men and institutions which have the biggest reputation have gained that reputation by delivering the biggest value per dollar.

They are everybody's friend in the business. And you don't have to hunt them up in dusty lofts, or know a brother-in-law of somebody who went to school with their cousin, in order to have them fix you up right.

Dr. Roger V. Walker, 1320 David Whitney Building, Detroit, has been designated by the Wayne County Medical Society as Journal correspondent. Members in and about Detroit are requested to report all news items and meetings to Dr. Walker, who will forward them in time for publication in each issue of the Journal.

Don't forget to file your income tax report before March 15th. Likewise do not neglect to make deductions for the following expenses: taxes, depreciation on library, instruments, equipment, automobile and furniture; expense of supplies auto, drugs, telephone, rent, salaries, electricity, heat, water or any other expense required to do business. Railroad fare to medical meetings is not deductable. Twenty per cent on instruments, 10 to 15 per cent on libraries and 10 per cent on furniture are reasonable deductions. Amounts paid for laboratory work is also deductable.

It is discouraging to continue to comment, suggest and invite opinions month after month and not get a "peep" from our members. We do not desire boquets —just boost the good things to the other fellow. We do desire your opinions and suggestions as well as experiences. We want them for our Correspondence Column. The Journal is your forum. Please get up and speak in it at least once in awhile and let your associates know what you are thinking about and what you desire. Your interest will aid in making a better Journal. Sit down tonight and let us have an expression from you on some timely subject or some personal experience.

According to figures issued by the Department of Health during 1919-1920-1921, the deaths of mothers following child birth was caused by: Septicemia, 39.1 per cent; albuminuria, 19 per cent; accidents, 15.3 per cent; hemorrhage, 9.8 per cent; phlegmasia, 4 per cent; following birth, 6 per cent. Not a very good record, but not an indictment against the profession because no statement is made as to how many of these cases were attended by doctors.

We have some 3,000 members affiliated with our State Society. It is reasonable to estimate that the average income of all the members is $3,000 per year. Consequently the membership of our society does a nine million dollar business per year. Would any other profession or industry limit its appropriation for current expenses to $15,000 per year to safeguard such a volume of business and conserve the rights of those who produce that nine million income? Well, that's just what we doctors of Michigan are doing. There is but one alternative—increased dues, if you desire increased benefits and protection.

Correspondence

Editor of the Journal of the Michigan State Medical Society:

The United States Public Health Service takes pleasure in announcing that, in response to an extensive demand for summer school work in public health, it has arranged with Columbia University, the University of California, the University of Michigan and the University of Iowa to conduct public health summer schools this year.

The faculties of these various summer schools will include many such leading specialists of the United States as Michael M. Davis (dispensary management), Robert H. Gault (criminal psychiatry), Emery Hayhurst (industrial hygiene), William J. Mayo (non-communicable diseases), E. V. McCollum and H. C. Sherman (nutrition), William H. Park (laboratory methods), Earl B. Phelps and George C. Whipple (public health engineering), M. J. Rosenau and Victor C. Vaughan (epidemiology), Thomas W. Salmon (psychotherapy), C. E. A. Winslow (public health administration) and Francis Carter Wood (cancer).

The Public Health Service has already received communication from several thousand physicians and sanitarians who hope to attend these summer schools. The widespread interest manifested thus early indicates that a large number will take advantage of this opportunity.

Yours very truly,
H. S. Cumming,
Surgeon General.

Editor of the Journal of the Michigan State Medical Society:

You probably know that the National Health Council has launched a campaign for periodic Health Examinations. Co-incident with this the Metropolitan Life Insurance Company has produced an excellent motion picture entitled "Working for Dear Life." A description of the film is contained in the enclosed folder.

The value of this film is indicated in the review made by the Health Films Committee, of the Council; a copy of which is attached.

We are prepared to send this film free, except for transportation charges, to Health Associations and other organizations desiring it. We are naturally interested in getting as wide a distribution as possible.

Any publicity which may be given to this matter in your publication will be appreciated.

Very truly yours,
Lee H. Frankel
Third Vice-President.

Mr. W. R. Uhlemann of the Uhlemann Optical Company, Chicago, called me over and told me his Company was the first (I think he said there are now only five in the United States) to advertise "For Oculists Exclusively." He says it may put them out of business, because they refuse to sell goods to optometrists and have lost an immense volume of trade. He thinks we really do wrong to advertise wholesale or other optical companies which sell to optometrists. He especially thinks that all occulists should patronize by preference houses that try to maintain ethical standards which physicians are so rigid in upholding.

We are enclosing a reprint of one of Mr. Uhlemann's talks to the Rotary Club of Elgin. If you can see any way you can help Uhlemann to maintain the standards they have adopted, either by publication of what he said or by writing him a letter of commendation, to demonstrate your approval of his position, the Uhlemann Company will appreciate your co-operation.

Yours very truly,
E. W. Mattson,
Manager, Co-operative Medical Advertising Bureau.

Editor of the Journal of the Michigan State Medical Society:

Section 3, Article V, of the Constitution of the American Medical Association reads:

Sec. 3.—The total voting membership of the House of Delegates shall not exceed 150. The medical departments of the Army and the Navy, and the United States Public Health Service and the scientific sections shall each be entitled to one delegate, and the remainder shall be appropriated among the Constituent Associations in proportion to their actual active membership as hereinafter provided in the By-Laws.

Section 3, Chapter I, of the By-Laws of the American Medical Association reads:

Sec. 3. APPOINTMENT OF DELEGATES.—At the annual session of 1903, and every third year thereafter, the House of Delegates shall appoint a committee of five on reappointment, of which the Speaker and the Secretary shall be members. The committee shall apportion the delegates among the constituent associations in accordance with Article 5, Section 3, of the Constitution, and in proportion to the membership of each constituent association as recorded in the office of the Secretary of the American Medical Association on April 1 of the year in which the apportionment is made. This apportionment shall take effect at the next succeeding annual session, and shall prevail until the next triennial apportionment, whether the membership of the constituent association shall increase or decrease.

The last reapportionment of delegates was effected at the Seventy-Second Annual Session, held at Boston in 1921. Another re-apportionment will, therefore, be made at the Seventy-Fifth Annual Session of the Association to be held in Chicago, June 9-13, 1924. As the reapportionment will be made on the basis of the membership in constituent associations, **as that membership has been reported and recorded on the membership records of the American Medical Association on April 1, 1924,** it is important that this official shall have complete reports of the membership of your association so that the names of all members may be duly recorded in this office **before April 1, 1924.**

This matter is brought to your attention now in order that you may remind the Secretaries of your component county medical societies of the need of the fullest possible reports of membership in their respective organizations.

Delegates already elected or to be elected for service in the House of Delegates for the Seventy-Fifth Annual Session of the American Medical Association in June, 1924, will be in no way affected by the reapportionment to be made in Chicago.

On January 1, 1924, the membership of the American Medical Association, which, of course, is the combined membership of its constituent state and territorial associations, was 89,835. It is sincerely hoped that this splendid membership will be maintained and even increased by the affiliation of desirable and eligible physiciatns and that the membership in your state will be maintained at a figure that will insure that there will be no re-

duction of representation in the House of Delegates.

Very truly yours,
Olin West,
Secretary.

Editor of the Journal of the Michigan State Medical Society:

A few months ago we completed a careful revision of "Formulas for Infant Feeding" and as it represents the best efforts thus far attempted to state clearly the theory and practical application of the Mellin's Food Method of Milk Modification, we believe you will welcome an opportunity to review this work. We are, therefore, enclosing a copy for your attention.

The contents of this book will undoubtedly be approved by every physician who is interested in infant feeding, for the matter set forth is in accord with the generally accepted principles and teachings of today.

We hope you will be interested in the book and perhaps in its contents will be found an answer to many questions relative to Mellin's Food which have not heretofore been perfectly clear to you.

Yours very truly.
Mellin's Food Company,
Howard Goodwin.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

Owing to illness in physician's family one of the finest general practices in Detroit will be sold. Cash income exceeds $20,000 yearly. Location ideal. Equipment and furnishings the best. Competition negligible. Sale price at equipment invoice only is $5,000. Included are all home furnishings in situ., valuable appointments and a thorough introduction. Packard coupe optional. Lady office assistant knows entire clientele and will remain if desired.

Fees are excellent. No night calls and no confinements except at hospital. Surgical field unlimited. Ideal place for country physician of personality and ability who wants a wider field.

This is a real opportunity. No answer desired unless you are a successful physician, can come and investigate and have the money .

Possession given anytime between May 1st and July 1st. C/O Journal.

$12,000 Misouri Practice Free—Wonderful location—General practice—25 per cent collections. Good opening for small hospital. Overwork causes me to have to sacrifice proposition. Buy office effects and take location.—Address Journal.

Dr. W. H. Kay, Lapeer, Mich, who was recently operated on at Hurley Hospital, returned home much improved.

Dr. C. H. O'Neil, recently appointed as School Trustee.

Dr. Hugh A. Stewart has recently announced his candidacy for Lieutenant Governor at the coming primaries.

State Nurse Association holding their annual convention at the Hotel Durant the week beginning February 11th.

Dr. E. H. Sichler is reported to be spending an enjoyable month in the south.

Dr. and Mrs. George E. McKean are down at Miami and are later going to Pinehurst before returning north.

A very successful Clinic was given by the staff of the Detroit Receiving Hospital and the faculty of the Detroit College of Medicine and Surgery on Wednesday, January 24, 1924. In the evening a subscription dinner was given by the Alumni Association of the Detroit College of Medicine and Surgery at the Wolverine Hotel, Detroit. Dr. Hugh Cabot, Dean of the University of Michigan Medical School, gave a very interesting address.

Dr. Arthur D. Holmes is on a trip to the West Indies with a party of Detroit men.

The medical branch of the Detroit Public Library now occupies the entire first floor of the Mullet Street building of the Detroit College of Medicine and Surgery. This Library receives an annual appropriation from the city for its maintenance, is in charge of a trained librarian, and is available to all citizens as well as the profession, and medical students of the college.

Dr. and Mrs. Frank B. Walker of Detroit, are spending a month in Florida.

The department of physiology now occupies the entire second floor and the department of Biological chemistry all of the third floor of the Mullet Street building of the Detroit College of Medicine and Surgery.

Dr. Walter H. MacCracken, Dean of the Detroit College of Medicine and Surgery, has returned from a trip to California. His daughter, Dr. Frances MacCracken, who went west with him, is not expected back until the early spring.

Dr. Clyde H. Halsey, who was formerly associated with the department of roentgenology of the University of Michigan Hospital, is now associated with Doctors Hickey, Evans, and Reynolds.

Dr. and Mrs. F. J. Maguire, of Detroit, are spending a month at Palm Beach.

Dr. H. W. Plaggemeyer will give a course of lectures at the Women's Hospital of Detroit during February and March, on Urology.

Dr. and Mrs. J. M. Robb, of Detroit, recently returned from a month's vacation at Palm Beach.

The staff at Harper Hospital will give a postgraduate course in disease of the eye, ear, nose and throat, during the month of March.

The engaement of Miss Elizabeth McGratton of Yale, is announced to Dr. Lynn Webber of Detroit.

Dr. Ed D. Plass of Detroit addressed the staff of Blodgett Hospital, Grand Rapids, on February 19th. His subject was: "Eclampsia and It's Conservative Treatment."

Dr. E. V. Joinville of Detroit returned from abroad the middle of February. While in Germany the doctor pursued a special course on diseases of the eye as given by Dr. Fuchs.

Announcement has just been made by E. Fullerton Cook, Chairman of the Revision Committee of the United States Pharmacopoeia that standards for whisky and brandy as medicines will be included in the new Pharmacopoeia now being revised. This is in response to a demand by the physicians of the country.

Under the national prohibition laws, whisky and brandy are classed as medicines and as such are legally prescribed in many cases of serious illness, but at the present time no legal standards exist for their purity.

All physicians of the General Revision Committee, acting as a Sub-committee, were appointed to study the situation and make the necessary action. This Sub-committee has issued the following statements:

"In view of the fact that a large number of physicians in the United States believe alcohol to be a valuable therapeutic agent, and in view of the widespread adulteration of the alcoholic liquors at present available, the members of this Referee Committee feel that for the protection of the public, there should be an official standard for medicinal spirits."

By including standards for whisky and brandy as medicines, in the Pharmacopoeia, which is the legal standard for drugs and medicines under the Food and Drugs Act ,the machinery of the U. S. Department of Agriculture and of the Boards of Health and Boards of Pharmacy throughout the country, is enlisted in protecting the sick against adulterated and poisonous products.

Dr. C. G. Parnall, Superintendent of the University Hospital, Ann Arbor has tendered his resignation.

Dr. C. W. Munger, Superintendent of Blodgett Hospital, Grand Rapids, has resigned. He is succeeded by Dr. Morril, formerly Assistant Superintendent of the University Hospital.

Drs. A. J. Baker, B. R. Corbus and F. J. Larned, Grand Rapids, attended the meeting of the American College of Physicians in St. Louis, Mo.

Dr. R. T. Urquhart, Grand Rapids, was operated on in St. Luke's Hospital, Chicago, on January 26th. Last reports are that he is making a good recovery.

Dr. L. W. Brown, Medical Examiner, Pennsylvania Railroad System, spent several days at headquarters in February.

Dr. J. H. Boulter, Detroit, was elected president of the Canadian Club of Detroit.

The Annual Congress of Medical Education, Licensure, Public Health and Hospitals will be held in Chicago March 3, 4 and 5, in the Congress Hotel.

Dr. B. R. Corbus, Grand Rapids, ,is spending a month in Florida.

Dr. Walter L. Finton and Associates have recently completed and moved into a modern Clinic Building at Jackson.

In addition to the usual specialties, a hydro and physio therapy department for men and another for women has been included.

Deaths

The death of Doctor E. D. Millis, Webberville, has been reported. The Doctor was born November 13, 1857 and died January 10, 1924. He was a graduate of the Detroit College of Medicine.

The death of Dr. Robert B. Honey of Dexter on July 25, 1923 ,has been reported.

Dr. George M. Hull of Ypsilanti was born July 31, 1865 and died December 30, 1923. He was a graduate of the Medical Department of the University of Michigan.

INDIVIDUALIZED LONGEVITY PROMOTION (PRECLENICAL MEDICINE)

Practice of medicine, in its last analysis, aims to promote longevity. William G. Exton, New York (Journal A. M. A., Feb. 23, 1924), says that this function, however is not always recognized by the practitioner, because of his absorption in the labors of alleviating pain and meeting clinical emergencies. As a matter of fact, the profession has been so preoccupied in caring for the sick that important functions of the general practitioner have been left open to usurpation by more or less well intentioned outside agencies, which engage in exploiting those phases of longevity promotion concerned with keeping the well well, and preventing or postponing the development of clinical conditions in the near sick. This work is characterized by the great emphasis laid on personal health values to be gained by as wide an application as possible of personal hygiene, prophylaxis, prevention, and eventually also of earlier or, as Sir James Mackenzie puts it, "predispositional diagnosis." A few of the most definite impressions received from a study of the seven years' experience of the Prudential Insurance Company in providing its policy-holders with urinalyses are set forth by Exton. The persons who have made use of preclinical service are: prudent, healthy persons; prudent persons who think themselves healthy but, nevertheless, have impairments; well and near-well persons, who believe themselves more or less sick; well persons, who think of their health only when bothered with some acute or self-limiting condition, such as boils or colds; persons with obstinate or chronic com-

plaints who are inexperienced, careless, easily discouraged or unfortunate in not having fallen into the right hands. In Exton's opinion one of the reasons preclinical medicine has not yet received from practitioners the scientific attention which it deserves lies in the embarrassment on the part of many by a sort of financial complex involved in asking patients to come for examinations which mean additional fees that some patients may think unnecessary. It is pointed out that this difficulty will disappear as the public becomes more educated with regard to preclinical medicine, and that the general practitioner has more power than any one else to accelerate progress. Another reason seems to be connected with the character of the literature of health examinations, which savors of salesmanship and teems with superficialities that carry no appeal to the critical or scientifically minded. It cannot be too strongly emphasized, therefore, that this new development rests securely on a scientific basis than which none is firmer; namely, common knowledge and experience. A health examination cannot be regarded as other than a scientific and prudent procedure deserving of the careful attention and active interest of every well meaning physician. No matter how thorough or technically correct an examination is made, the utmost result that can be expected of it is limited to the efficiency of the physician selected by a patient to treat him, and treatment can be effective only to the extent of the correctness of the physician's diagnosis. The physician who does not teach and encourage the habit of periodic examinations among his patients should be prepared to accept with equanimity the relegation of this phase of practice to outside agencies, because nothing is more certain than that preclinical medicine is bound to increase in scope and importance. If all the information about a person gleaned from periodic examinations made during years of health is in the keeping of the attending physician when illness comes, it is not lost at a time when it may prove to be the controlling guide to correct diagnosis and successful treatment. Undoubtedly, the type of examination for the presumably healthy will change with experience, wider usage and increasing familiarity on the part of laity and profession. Certainly new discoveries will influence the technic, which has nothing mysterious about it. The gist of preclinical medicine lies in paying attention to minor complaints and observations which have hitherto not been of absorbing interest to those who have considered themselves only properly concerned with active illness, because only by knowing the habits and everyday experiences of an individual is it possible to correct and prevent tendencies to malfunction and organic disease. The potentialities and scientific progress of preclinical medicine depend on the realization that health examinations are not mere isolated procedures, and that their chief significance lies in the principle of continuous care of the individual. Preclinical medicine is destined to grow in scope and importance, and the duty of thwarting the formation of an artificial and unscientific gap between health and disease rests squarely on the practitioners of the country. They alone are in a position to make effective the benefits which must result from that broader and closer contact between public and profession, which is at one and the same time the greatest present need of both and the essence of preclinical medicine.

County Society News

CALHOUN COUNTY

MINUTES

The first regular meeting of the Calhoun County Medical Society was called to order by Vice-President Kingsley in the Bridge Room of the Post Tavern, Tuesday, January 8th, at 8:05 p. m.

Dr. Harry Knapp moved that the minutes of the Annual Meeting be approved as printed in the Bulletin. The motion was seconded and carried.

The following bills were read: Phoenix Printing Co., December Bulletin, $11.00; Dr. Squier, mailing Bulletin, $1.16; postage, $32. After approval by the Board of Directors present, it was moved by Dr. Godfrey and seconded by Dr. Eaton, that the bills be paid. The motion was carried.

Dr. George Hafford suggested that inasmuch as Dr. Grant was permanently located in Albion, his application for membership be acted upon, and taken from the table, the rules be suspended and the secretary be instructed to cast the unanimous ballot of the Society for Dr. Grant for membership. Seconded by Dr. Godfrey and carried.

The application for membership of Dr. J. R. Jeffrey was presented for first reading. This application was recommended by Dr. Eggleston.

Dr. George Hafford then introduced the speaker of the evening, Dr. C. G. Darling, of Ann Arbor, who talked on "The Spleen." Discussion was opened by Dr. Kingsley, followed by Drs. Hafford, Eggleston, Knapp and Winslow.

Following the discussion Dr. Gorsline expressed to to Dr. Darling the high esteem in which he was held by the medical profession at large. As a token of this esteem he was presented with a book in which the sentiment was endorsed by the members of the Society.

Dr. Gubbins moved that the felicitations of the Society be extended to Dr. Haynes and his wife and that the Vice-President and Secretary, together draft a letter expressing this sentiment to Dr. Haynes. Seconded by Dr. Sleight and carried.

It was moved, seconded and carried that the meeting adjourn.

Attendance at the dinner, 33; at the meeting, 42.

GRATIOT-ISABELLA-CLARE COUNTY

The Annual Meeting of the G. I. C. which was called for December 13, and postponed to January

24th, was held in the Alma City Hall. Dr. I. N. Brainerd read a paper on Tubercular Peritonitis, this was discussed by Dr. T. J. Carney and M. F. Brondstetter.

Dr. C. F. DuBois then made a report of his survey of the Alma Schools and Alma College, showing an average of 40 per cent of the pupils have goiter.

The following were elected officers for 1924: President R. B. Smith, Alma; Vice-President, M. C. Hubbard, Vestaburg; Secretary, E. M. Highfield, Riversdale.

E. M. Highfield, Secretary.

BAY COUNTY

At the Annual Meeting held December 10, 1923, Dr. E. C. Warren, retiring President tendered the members a complimentary banquet at the Wenonah Hotel. The speaker of the evening was Rev. J. B. Pengelly of Flint. He gave a very forceful address on "The Present Day Outlook: A Uew Dark Age or a New Renaissance."

The following officers were elected for the coming year:

President, Dr. P. R. Urmston Vice-President, Dr. C. A. Traphagen; Secretary-Treasurer, Dr. L. Fernald Foster; Medico-Legal Adviser, Dr. A. W. Herrick.

The annual dues were raised from $8 to $10.

Dr. G. W. Trumble was given an honorable transfer to the Genessee County Society.

The resume of the years work showed a very prosperous and active administration. The programs were among the most interesting ever given.

The big meeting of the year was the one addressed by Dr. Banting of Toronto, over 200 being in attendance.

L. Fernald Foster, M. D., Secretary.

BERRIEN COUNTY

The following officers have been elected for 1924 for Berrien County:

President, R. H. Snowden, Buchanan, and Secretary, R. B. Howard, Benton Harbor.

HOUGHTON COUNTY

The Houghton County Medical Society held its regular monthly meeting at the Miscowanbils Club at Calumet, February 5, 1924. Owing to the severe weather, not many members were in attendance.

A committee of Doctors Bourland and Gregg was appointed to draw up resolutions over the death of Dr. Davis of Calumet. The report of the auditing committee was read and approved.

It was voted by the society to invite Dr. Olin of the State Board of Health to our next regular meeting in March, which will be on the subject of goitre.

Dr. W. T. S. Gregg of the C. and H. Staff, presented a very interesting and instructive paper on "Sprains of the Knee." He also presented three cases which had been operated and the various cases were fully discussed by those present. Quite a number have paid their dues for 1924 and those who have not are urged to do so before April 1st, the last day of grace. We wish to urge a full attendance at our next meeting, March 4th, when the entire subject of goitre will be covered.

Respectfully,

G. C. Stewart, M. D.

Secretary.

INGHAM COUNTY

The Michigan Department of Health will furnish the program for the meeting of the Ingham County Medical Society in Room 703, New State Building, on Friday, February 15, at 7:30 p. m.

(1) Goiter Survey of Four Counties of Michigan and General Summary of Goiter Problem—By Dr. R. M. Olin, Commissioner of Health.

(2) Review of the Work Done by the Laboratory of the Michigan Department of Health for Ingham County Physicians in the Year 1923—By Dr. C. C. Young, Director of Laboratories. Fifteen minutes.

(3) Demonstration of the Kahn Precipitation Test—By Dr. R. L. Kahn, Immunologist. Fifteen minutes.

Max Wershow, Sec'y.-Treas.

KALAMAZOO-ALLEGAN-VAN BUREN COUNTY

At the annual meeting of the Kalamazoo Academy of Medicine the following officers were elected:

President, Dr. N. L. Goodrich, South Haven; first vice-president, Dr. W. E. Collins, Kalamazoo; second vice-president, C. A. Bartholomew, Martin; third vice-president, Dr. R. U. Adams, Kalamazoo; secretary, Dr. W. G. Hoebeke, Kalamazoo; treasurer, Dr. S. U. Gregg, Kalamazoo; councilor, Dr. J. B. Jackson, Kalamazoo; librarian, Dr. C. A. Youngs, Kalamazoo; board of censors, three years—Doctors O. D. Hudnutt, L. V. Rogers; Delegates to the State Society, Doctors L. J. Crum, W. den Blyker, C. A. Youngs; Alternates to the State Society, Doctors C. L. Bennett, C. Gillette, L. E. Westcott.

W. G. Hoebeke, Secretary.

GENESEE COUNTY

The Genesee County Medical Society, believing that the medical profession is bearing an excessive tax burden, at a regular meeting held on Feb. 6, 1924, adopted the following resolutions:

Be It Resolved, That this Society protests against the excessive taxation imposed upon the profession by the Harrison Narcotic Act as amended in 1918, inasmuch as the tax collected from this source is greatly in excess of the amount necessary for the enforcement of this law ($610.311.13).

Be It Further Resolved, That this Society considers that occasional post-graduate studies are necessary for all progressive physicians, and that any expense so incurred should be deductable as a legitimate expense.

Be It Further Resolved, That this Society believes that a physician should be allowed to deduct the expenses incurred in attending the professional societies to which he belongs. The present ruling penalizes a doctor for attending such society meetings. We believe the community at large benefits by the increased skill and knowledge of the doctors who regularly attend state, national and special societies.

Be It Further Resolved, That this Society is in favor of the reduction of tax rate on earned incomes. The taxation on earned incomes at the same rate as on incomes derived from investments is in reality a tax on the productive activity of the professional man.

Be It Further Resolved, That a copy of the above resolutions be sent to our local senators and representatives, as well as to the Journal of the Michigan State Medical Society.